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AGRICULTURE

No. 126



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I. GENERAL INFORMATION

BASIN BY BASIN CONTROL OF HUANG HE DISCUSSED

Beijing RENMIN RIBAO in Chinese 15 Jan 81 p 3

[Article by Gao Bowen [7559 0590 2429], Engineer, Ministry of Water Conservancy: "Proposal For Comprehensive Control of Small Basins Along the Middle Reaches of the Huang He"]

[Text] The loess highlands are located in the middle and upper reaches of the Huang He where serious erosion results in great damage in the lower reaches of the Huang He. How to control the silting of the Huang He is a great problem that has long concerned people. Experts have proposed numerous different ways to solve the problem, the major of which have been the following. One is to continue to increase the height of the dikes. This has been the commonly adopted method used since establishment of the Chinese People's Republic, and doubtless a necessary one, which has made the Huang He flow along safely for more than 30 years. The bed of the Huang He, however, is already higher than the surrounding land, and if this continues, how high will the thousand li long dikes have to be built? A second is highly concentrated transportation of sand into the sea. But use of such a method to get rid of most of the silt in the Huang He has little practicality. Third is shifting water from an external basin to flush the silt into the sea. Some people have calculated that it would take an investment of 1.25 yuan to flush away one cubic meter of silt from the Huang He by diverting water from the Yangtze River. But this high cost aside, a project to shift water from the south to the north is not practical in the short term. Fourth is construction of large water conservancy projects along the main channel of the river for use in flood prevention, for irrigation, for the generation of electric power, for navigation, and for holding back the silt. This was the staircase development program decided on during the 1950's. But as a practical matter, unless the problem of silt in the upper reaches is solved, these goals will be very difficult to achieve successfully. Fifth is the building of dams in large ravines in tributaries along the middle reaches of the river to form large pools. This method represents an advance over attention only to the lower reaches, and it is a method for impounding floodwaters and silt on the spot for the development of production. But quite an investment would be required, and for the short term, the state will be hard pressed to make large investments. Moreover, given the limited capacity of storage and the unlimited amounts of silt arriving, the dams would not have enduring usefulness. Sixth is planning for both the main channel and the tributaries, taking action first against the sources that produce the runoff and the silt, vigorously acting to protect the soil, and actively bringing the small basins under comprehensive control to achieve a saving at the source to clear up the flow. If the myriad small basins in the middle reaches can be harnessed, the

erosion can be brought under control. With the protection and utilization of the water and soil resources of the loess highlands, not only can local production be developed, but the lower reaches will also escape damage. We believe that comprehensive control over the small basins in the middle reaches of the Huang He is the key to control of the Huang He, and that it is also a currently workable method.

2.

The so-called small basins means basins with an area of less than 30 square kilometers, or 50 square kilometers at most. In all cases where there has been comprehensive control of small basins, results have been good, action has been fast, and the masses very much welcomed them. The advantages of comprehensive control of small basins are numerous. The main ones follow.

First, it fits in with the laws on control of erosion. Each individual basin is a natural collection zone. It is a place where runoff and silt is produced and it is a transportation passageway. The occurrence of erosion, its development, and the damage it causes are clearly revealed in the basins. In the scouring process, water is the main force and the soil is the object of the scouring. In order to control erosion, no matter whether by increasing ground cover, changing the topography and landforms, or increasing the ability of the soil to combat scouring, most important is satisfactory handling of the problem of surface runoff, converting this damaging activity into a beneficial activity. Within each basin are hills, rivers, ravines, and slopes. Depending on the topography, the location, and the quantity of runoff, defenses have to be built to match the danger, beginning at the top and proceeding to the bottom, controlling section by section, and building a defense system that employs measures of various kinds. Measures include afforestation of barren hills and desolate ravines, terracing fields on slopes, and other cultivation techniques that impound water and preserve the soil, building of check dams, silt arresters, small reservoirs, and mountain pools in valleys and gulches in an effort to stop the land from producing runoff or producing less runoff; impounding on the spot, insofar as possible, the runoff that has been produced, and safely draining away whatever cannot be contained, thereby achieving the goal of effectively controlling erosion.

Second, it can use the land in sensible ways, hastening the building of forests and grassland bases, changing the single crop grain economy production structure, and developing diversification. Currently only between 30 and 60 percent of the loess highlands are being used. Almost one-half is not being well used. Furthermore, the structure of agricultural production is very irrational, and the ecology has become imbalanced. Each small basin has shady slopes and sunny slopes; there are barren hills and desolate ravines where forests and grasslands can be developed, and there is flat land in river basins suited to the growing of grain crops. Nature has formed an economic area for the development of diversification. Through overall planning with consideration being given to all factors concerned in the use of soils of different kinds, a place could be found for agriculture, forestry, and livestock raising, each of which would be profitable. Through comprehensive control of small basins, overall planning could be done on the basis of the different soils and economic circumstances in each commune and brigade.

Third, comprehensive control of small basins is suited to the organization of leaders and bringing into play the role of specialized units concerned, and results from investment are good. Formerly single measures of scattered control made difficult an inspection of work, and they did not lend themselves to inclusion as planning items. In comprehensive control of small basins, every river basin has a name, and goals and tasks are clear, making for ease of inclusion in plans and for inspection and evaluation before acceptance. It also makes for ease in organizing agriculture, forestry, water conservancy, and livestock forces for coordinated combat. In the piecemeal control of the past, forests, grasslands, terraced fields, and silt arresters were dispersed over hill and dale, and subsidies were sprinkled around like pepper, but results did not amount to much. Treatment of small valleys as an item for inclusion in plans, and item by items use of subsidies for erosion prevention can increase benefits from investment. In 1978, Gansu Province controlled 6,162 square kilometers without a comprehensive basin control plan at an average cost of 10,000 yuan per 1.02 square kilometers. When the method was changed to comprehensive control of small basins, costs were 10,000 yuan per 1.56 square kilometers. By using small basin control, research work in erosion prevention can be closely integrated with control, which makes for acceleration in the speed of control.

Fourth, small valley comprehensive control can unify the conflicts between upper and lower reaches and left and right banks, keeping every commune and brigade in step. It also lays a foundation for water conservancy in mountain regions and for control of riversources. Formerly, control work did not include overall planning to take all factors into account for the whole river basin, and frequently factors were out of step with each other. The lower reaches were controlled but the upper reaches were not, or you controlled but I did not control. Forces were frittered away. Once comprehensive control of small basins has been instituted, given an overall plan for the entire basin, everybody can closely coordinate and separate forces can make a concerted attack, making it possible to get twice the results for half the effort.

On the basis of experiences everywhere, hastening the control of basins requires that the following several links be taken in hand.

First, there has to be a practical and workable plan. This plan must spell out the direction of production and construction, make sensible arrangements for agriculture, forest, and livestock lands, and sort out the relationship between present benefits and long range benefits. Second, needed seed and nursery stock bases must be built to make ready the seeds and seedlings needed for afforestation and the planting of grasslands. Third is the training of technicians and strengthening of technical guidance, to increase the level of control. Fourth is providing for research work to provide scientific data for control. Fifth is the building and tending of a conservation organization so that each and every facility will be used to the fullest. Sixth is formulation and implementation of pertinent policies to arouse enthusiasm for the control of erosion in the state, the collective, and individuals. Seventh is perseverance in control work.

3.

Benefits derived from comprehensive control of small river basins in accordance with natural laws and economic laws with the impounding of water to protect the soil and

the development of production in individual industries are remarkable. Looked at in terms of overall benefits in impounding water and protecting the soil, the role in cutting down of runoff generally increases as the degree of control expands. The role in reducing silt is mostly greater than the proportion of the degree of control. For example, in a small river basin at Wangjiagou in Lishi County, Shaanxi Province, the degree of control was 57.5 percent. The average reduction in runoff over a more than 20 year period was 43.5 percent, and silt was decreased by 57.6 percent. In the Nanxiaogou Basin of Qingyang County in Gansu Province, degree of control was 58 percent; runoff was reduced by 55.6 percent; and silt was reduced by 97 percent.

Looked at in terms of economic benefits, the productivity rate of the soil in the loess highlands is mostly very low. Before control, benefits from the soil amounted to between 3 and 4 yuan per mu. Following control by the small basin comprehensive control method, productivity rate of the soil increased to between 20 and 40 yuan per mu. Not only did the per unit yields of grain increase, but earnings from the forestry, livestock, and sideline industries generally increased from 10 percent to 50 percent or so. Numerous experiences have demonstrated that comprehensive control of small basins is truly the road to wealth for the local people. If only it is continued, within 3 to 5 years progress will be evident; in 6 or 7 years, appearances will change; and in 10 years or so, the whole image will be transformed.

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CSO: 4007

INTEGRATE MECHANICAL POWER WITH HUMAN, ANIMAL POWER

Beijing RENMIN RIBAO in Chinese 29 Dec 80 p 2

[Article by Gao Shangquan [7559 1424 0356]: "Integrate Mechanical Power With Human and Animal Power--On Modernization of Power Utilization in Agriculture"]

[Text] The type of power used in agriculture is an important indication of the difference between traditional farming, contemporary farming and modern farming. The process of agricultural modernization, in a certain sense, is also the process of replacing human and animal power with mechanical power. How to understand and manage this process is one of the problems that must be solved in taking the road of Chinese-style agricultural modernization.

1. New Conditions of Agricultural Mechanization

At the mention of agricultural modernization, the spectacle of full mechanizations --as already accomplished in some developed countries where one person can undertake the farming of hundreds or thousands of mu and support scores of people--may loom up in people's minds. Some comrades hold that if agricultural modernization is to be accomplished in China, we should try to attain the same level of mechanization as soon as possible. Thus they propose that experiments of full mechanization be carried out in some counties, believing that human and animal power, or semi-mechanical farm tools, can be ignored. Such a view is divorced from realities in our country.

Since the Third Plenary Session of the 11th Party Central Committee, all localities throughout the country have conscientiously implemented the two Central Committee documents on agriculture, and agricultural production has quickly recovered and developed. Along with the gradual implementation of the rural economic policies, the enforcement of the production responsibility system in agriculture, the reduction of the scope of labor organization and the change in the ratio between distribution among the commune members and accumulation for the collective have also brought about some changes in agricultural mechanization.

First, a greater demand for small and medium-size farm tools in the countryside. The number of semi-mechanized farm tools has been increased by about 50 percent, and more than doubled in some areas. In 1979, Lingui County of Guangxi Zhuang Autonomous Region sold 1,500 sets of threshing machines, and is expected to sell

another 2,900 sets in 1980. According to investigations conducted by the supply and marketing cooperative in Changde Prefecture of Hunan Province on 27 communes and 72 production teams, the sale of small and medium-size farm tools this year will be increased by 40 percent over last year's. In the Ju League of Nei Monggol, the hillside plows, overstocked for many years, are now in great demand, while many communes and production teams now want to buy waterwheels, production of which has been discontinued for many years.

Second, the increasing demand for farm animals and semi-mechanized means of transportation. Since the implementation of the policies on private plots and private live-stock breeding, and the division of land into smaller lots, the peasants have requested the supply of more cows, donkeys, animal-drawn carts, tricycles and push-carts. The push-carts produced by Qingdao Vehicle Plant in the current year have been sold out, and orders, validated in the form of signed contracts, have already been received for the 1 million carts planned for next year's production.

Third, the marked decline in the sales of large farm machines. According to the grand total of sales of farm machines and tools from January to September 1980, the sale of large and medium-size tractors was 32 percent and the sale of mechanized plows and mechanized rakes was 40 percent below those of the same period in 1979.

To suit new farming conditions and to solve the new problems of agricultural mechanization, the departments concerned should modify their opinions on mechanization and light-or semi-mechanization, while the supply and marketing departments should adopt effective measures in arranging for the production of urgently needed semi-mechanized farm tools according to rural market demand. At the same time, they should step up scientific research on semi-mechanized farm tools, continue to improve and develop new varieties, and produce the correct items to be supplied in good time to meet the needs of agricultural production.

2. Integration of Mechanical Power With Human and Animal Power Not for Expediency

All things develop by stages in a process of rising from a low to a high level, and the modernization of power for agriculture is no exception. Agriculture in the United States has also been through the stage of farming with human and animal power and the stage of combined mechanical and animal power before the introduction of mechanized farming. More than 90 years intervened between the popular use of semi-mechanized farm tools in the mid-19th century and the basic mechanization of agriculture by 1940. We have the superiority of the socialist system and can use the experiences of other countries for reference in order to shorten the period of transition from semi-mechanization to full mechanization, and from the use of human and animal power to the use of mechanical power. However, China has been a semifeudal and semicolonial, poor and backward country where socialist transformation and construction were carried out on the basis of a predominant small-scale peasant economy and an under-developed commodity economy. Therefore, the modernization of power for agriculture is an arduous, complex and long-term undertaking for the following reasons:

First, agricultural modernization and industrialization in our country are taking place simultaneously. In developed countries, agricultural modernization generally

follows industrialization, so that industry could be able to provide large amounts of fine-quality and low-price technical equipment. Since the level of our industrial production is low, our technology is backward, and conditions are unfavorable for the adequate supply of fuel, electricity, steel, rubber and the means of communication and transportation for supporting agriculture, agricultural modernization is even more difficult. Semi-mechanized farm tools are less restricted by the above conditions and are simple in structure; therefore, they can be manufactured by the vast majority of our farm machine factories.

Secondly, our country is economically weak and the purchasing power is low in the countryside. Although the policy of gradually lowering the prices of industrial products and raising the prices of agricultural products has been adopted, the principle of exchange of equal values still does not apply to industrial and agricultural products. The present foundation of collective economy is still very weak and people cannot afford to spend much on the purchase of modern farm tools. On the other hand, semi-mechanized farm tools are less expensive and suit the rural purchasing power.

Thirdly, because of the abundance of labor-power in our countryside, living labor is not so expensive as materialized labor. In some developed foreign countries where there is a shortage of labor power, living labor is more expensive than materialized labor, and people have more technical skill in the use of farm machinery. In our country, however, it will take quite some time for our peasants to learn the operation of modern technical equipment and for the use of such equipment to be popularized. Semi-mechanized farm tools are suitable here particularly because labor power is plentiful for agriculture and these tools can be easily taken care of.

Fourthly, in our country, natural conditions and the farming system are complex, the varieties of crops are numerous, and the level of specialization and socialization in agricultural production is also very low. Semi-mechanized tools are more adaptable to different farming methods in different places and therefore can be readily accepted by the masses. After some modification and improvement, many semi-mechanized farm tools can be turned into fully mechanized ones to suit local conditions.

The simultaneous promotion of mechanization and semi-mechanization and the integration of mechanical power with human and animal power are by no means a temporary expedient; instead, they constitute an important principle to be upheld for a long time to come. The so-called "a long time to come" does not mean 3 years, 5 years, 8 years or even 10 years. Indeed, the question of using human and animal power should be highly regarded even when there is full-fledged mechanical power. Canada is already a modernized country, but even now, horse-drawn harvesters are still in use. Since China is such a large country, some localities must rely on semi-mechanization and the use of human and animal power, if we will take a long-range view of the situation.

Semi-mechanized farm tools are far more efficient than the small old-style farm tools. Though no match for the large fully mechanized tools, they require no heavy investments and can accomplish a great deal. Besides helping in energy

conservation, they are highly adaptable to different localities and easy on the peasants' purse. Therefore, we should attach great importance to the production of semi-mechanized farm tools and the popularization of their use. The idea and style of sitting down to wait for mechanization and closing our eyes to the advantages of semi-mechanized tools are erroneous.

3. The Question of "Substituting Machinery for Horses" and "Double Investments"

It is the natural tendency of agricultural modernization for human and animal power to be gradually replaced by mechanical power in production. However, "substituting machinery for horses" cannot be over-hasty, because the speed of substituting should be determined by the following considerations: First, it depends on whether there are enough farm machines to be used. Secondly, the availability of funds for their purchase has to be considered. Even though state loans can be counted on, we still have to consider our ability to repay. Thirdly, there should be some assurance of adequate fuel supply. Fourthly, qualified operators and managers must be available. Fifthly, we must have suitable roads for the movement of the machinery. Since farm machinery is a commodity, the crucial question of buying or not buying hinges on whether the value created by the manpower--which has been displaced by the machinery--will be more than enough to compensate the loss of materialized labor. If we are over-hasty and prematurely negate the role of animal power, the result will be "more haste, less speed" which is detrimental to agricultural development. The process of "substituting machinery for horses" is quite a long one even for some fairly highly developed countries. The United States, for example, began its agricultural mechanization in 1910, and by 1918, the number of tractors kept by the farms had increased from 1,000 to 65,000. Yet the number of farm animals, far from decreasing, had increased from 24.1 million to 26.72 million head. In 1940, when agricultural mechanization had been basically accomplished, 14.47 million head of farm animals were still kept. We cannot speed up "substituting machinery for horses" merely by our subjective wishes or administrative orders.

For some paddy fields in South China, why is the method of "ox-plowing and machine-raking" (that is, the use of ox to tow the plow and a rotary cultivator to loosen the soil) so commonly used and why is it impossible to "substitute machinery for ox"? This question is inseparable from natural conditions, economic conditions, the flexibility of manpower and the performance of the farm tools. In the south, there are many hills and little plain. Many localities are unsuited for tractor plowing, and the mud layer is too deep for the tractors to get in. Therefore, farming has to be carried out by people with the help of oxen. In the south, again, many localities are full of hills with plenty of grass and people. Therefore, the raising of cows is a lucrative business. Since "ox-plowing and machine-raking" can be used to supplement manpower, while tractor plowing is unsuited for paddy fields at present, it would be impractical to insist on the "substitution of machinery for ox."

When machines, horses and oxen are all used, the problem of "double investments" or "two orchestras for one stage show" will be inevitable. This contradiction will naturally arise in the process of agricultural mechanization. For the majority of localities, neither farm machine nor animal power can be dispensed with at the present stage of agricultural production. While giving full play to the role of

farm machines, however, we should also organize the human and animal power, liberated by the farm machines, for multiple undertakings or for work in the enterprises run by communes and production brigades so as to broaden the avenues of production and to create more material wealth. In Gaixian County, Liaoning Province, the animal power which can be spared from seasonal or year-round labor, is used for short-distance hauls or for developing industrial and sideline production. Thus "two orchestras for one stage show" has become "two orchestras for two stage shows" which can create more wealth and increase the income of the collectives and the commune members.

Animal power is abundant in some remote areas, such as the large herding areas of Nei Monggol and Xinjiang. The machines operated by a combination of animal power and natural forces (such as wind and water) can be used in aid of threshing machines weeding machines and shearing machines. Manpower is plentiful in our countrysides, and the development of manual machines is of great significance. In the plains of the north, for instance, rubber-wheel carts operated with manpower are well received by the masses. They are simple in structure, light, convenient, curable, low-priced and highly versatile. In the paddy field areas of the south, bicycles have become an important means of short-distance transportation, and hand-mills, as manual machines, are used in the mountainous areas. The development of human and animal power machines can help conserve energy and reduce air pollution. Peasants can afford to buy them and use them to good advantage. Why should we hesitate to develop them?

9411
CSO: 4007

NATIONAL

BRIEFS

WINTER WHEAT, SNOWFALL--Beijing, 20 Feb (XINHUA)--China's main winter wheat growing centers had between one and three millimeters of snow yesterday, according to the Central Meteorological Bureau. This included most of north China and areas on the lower reaches of the Yellow River. The snowfall will help relieve the drought in these areas. [Text] [Beijing XINHUA in English 0225 GMT 20 Feb 81]

MORE TREES IN CITY URGED--Beijing, 24 Feb (XINHUA)--People in Chinese cities and towns will soon be mobilized for afforestation, reports the PEOPLE'S DAILY today. The State Bureau of Urban Construction has issued a notice asking people of all walks of life to plant more trees, flowers and lawns at their homes and work places. Government departments in charge of urban construction and gardening in each city has the responsibility of coordinating the afforestation effort by assigning specific tasks to each factory, school, governmental organization and army unit. According to the notice, the number of trees planted last year in urban areas in 18 provinces, municipalities and autonomous regions was 28 percent higher than in 1979. In Beijing, 700,000 square meters of lawns were planted. Presently, only 12.7 percent of China's land area is covered with trees. China ranks the 120th of the 160 countries in the total areas of afforested land. The goal of a new mass campaign initiated last March is to cover 20 percent of China's land between 1980 and 2000. [Text] [OW240836 Beijing XINHUA in English 0711 GMT 24 Feb 81]

FORESTRY CLASSES--Harbin, 20 Feb (XINHUA)--Secondary school pupils in wooded areas of northeast China and Nei Monggol will have a new subject in school beginning this year--silviculture or the study of the development and care of forests. This addition to the curriculum is a response to a Forestry Ministry decision to give children in these regions a basic knowledge of forestry. This is one of the steps China is taking to train school youngsters with technical fundamentals needed in their postschool occupation. Only 4 percent of senior high school graduates in the country can go on with their studies in colleges each year while the rest join the work force. The new subject will be introduced gradually in Heilongjiang, Liaoning and Jilin Provinces as well as in the Nei Monggol autonomous region, major timber-producing areas of the country. At present more than 100 middle school teachers are attending a training course at the Yichun Forestry School in Heilongjiang Province familiarizing themselves with the new curriculum. It embraces raising saplings, caring for woods, tree felling, timber transportation and processing. [Text] [Beijing XINHUA in English 0705 GMT 20 Feb 81]

RURAL SAVINGS--Statistics from the authorities concerned show that as of the end of November, savings in rural villages throughout the country amounted to 10.4 billion yuan--up 4.1 billion yuan over the same period last year and an average of somewhat more than 12.80 yuan per capita of the farming population. Rural savings have been characterized this year by a great increase; there has been a 65-percent increase over last year both in total amount and average savings per capita, making it the year of the greatest growth in savings on record. Savings figures have risen monthly, which is a change from the sudden rises and falls of former years. Time deposits account for 70 percent of the total--an increase over last year of about 10 percent. [Hangzhou ZHEJIANG RIBAO in Chinese 15 Dec 80 p 3] 9432

LAND RECLAMATION, OTHER ACHIEVEMENTS--Chinese land reclamation units made achievements in agricultural and industrial production in 1980. Total output value reaches more than 8.4 billion yuan, showing an increase by 8.8 percent compared with the 1979 record. Total profits are 400 million yuan. The outputs of grain, cotton, oil-bearing crops, fruit and tea all increased over 1979. Achievements were also made in afforestation and livestock raising. Some 460,000 mu of land were afforested in the reclamation areas of Heilongjiang, and the milk output increased by more than 80 million jin compared with 1979. [Beijing Domestic Service in Mandarin 1200 GMT 26 Feb 81]

FARM AERIAL SPRAYING--The Agricultural Aviation Department of the General Administration of Civil Aviation of China has conducted aerial spraying of plant hormones and fertilizers in eight provinces and autonomous regions including Heilongjiang, Jilin, Liaoning and Henan provinces in 1980, thus helping farm crop output increase over large areas. State-run farms in Heilongjiang, by adopting aerial spraying of fertilizers as a major measure in grain production, have registered an annual grain output increase of 8 to 10 percent. By spraying pesticides, fertilizers and plant hormones from planes, Liaoning and Henan have both achieved greater grain output. [Beijing Domestic Service in Mandarin 1200 GMT 21 Feb 81]

COCOON OUTPUT--Both Sichuan and Zhejiang provinces have had a bumper silkworm cocoon harvest, with total output reaching the highest levels in history. Silkworm cocoon output in Sichuan Province reached more than 1.7 million dan, a more than 15-percent increase over last year. Output from the more than 1.2 million mu of mulberry groves in Zhejiang Province totaled 1.29 million dan, an increase over last year of more than 10 percent; the average cocoon output exceeded 10,000 jin per mu of mulberry groves for the first time. Sichuan and Zhejiang are China's major silkworm cocoon production areas, accounting for more than half of the total national output. Everywhere in Sichuan Province the past practice of emphasizing only spring and autumn cocoon production and neglecting summer and late autumn silkworm development has been changed. Summer and late autumn silkworm cocoon output amounted to more than 500,000 dan, a one-third increase over last year. In Zhejiang Province, there was a bumper silkworm cocoon output for the spring, summer, and autumn seasons. Seventeen counties had an annual output of 10,000 dan of cocoons. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 24 Nov 80 p 5] 9432

BRIEFS

GRAIN PRODUCTION--The peasants in Anqing Prefecture, Anhui Province, produced over 4.1 billion jin of grain in 1979 with an average per-mu yield of grain exceeding 1,000 jin. Grain output in 1980 declined as a result of serious natural disasters. Prefectural leadership stressed grain production this year in order to reach or exceed grain output in 1979. Hybrid-bred rice acreage will be expanded from 380,000 mu in 1980 to 800,000 mu this year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 13 Feb 81]

AGRICULTURAL PRODUCTION--The masses in Xiaoxian County, Anhui Province, reaped a bumper grain harvest last year with a total output equal to 1979's despite natural disasters. They also set an all-time record in cotton production. The county has a total population of 1 million. Some 940,000 mu of wheat and 260,000 mu of cotton will be cultivated by the peasants of the county this year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 13 Feb 81]

TREE PLANTING--The Anhui Provincial People's Government issued an urgent directive on 15 February on tree planting. The directive called on the people to develop a tree planting month campaign throughout the province around arbor day, and to complete at least 70 percent of the tree planting task by the end of February. The directive also stressed the need to implement the 1980 provincial CCP Committee's decision on afforestation and the state council's notice on banning arbitrary felling of trees, to enforce a strict responsibility system in forest management, and to grow trees with a scientific approach. [OW171241 Hefei Anhui Provincial Service in Mandarin 1100 GMT 16 Feb 81]

ANHUI COTTON PRODUCTION--Dangshan county, Anhui, has stepped up efforts to train technicians for cotton production. In 1980, the county grew 160,000 mu of cotton and reaped a total of 13 million jin of ginned cotton. [OW232007 Hefei Anhui Provincial Service in Mandarin 1100 GMT 22 Feb 81]

CSO: 4007

BRIEFS

ROSIN OUTPUT--Between January and October this year, Fujian Province produced a total of 51,300 tons of rosin and more than 68,000 tons of pine resins, an increase of 8 percent and 13 percent respectively over last year. An estimated 60,000 tons of rosin will be produced throughout the province this year, a 10-percent increase in output over last year and the highest level ever recorded. Fujian Province has abundant rosin sources. Rosin is an important raw material for the chemical industry and is Fujian Province's principal export commodity. Probably more than 40 percent of Fujian's total output of rosin goes for export. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 24 Nov 80 p 5]

FUR PROCUREMENT--A substantial increase has taken place in the quantity of fur and other animal products purchased this year in China. Procurement of goat fur, dog fur, and rabbit fur has increased by more than 30 percent over the same period last year, and cow hide, sheep wool, and cashmere wool has increased by more than 20 percent. Procurement of hog bristle has increased by more than 10 percent. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 24 Nov 80 p 5] 9432

SPRING AFFORESTATION--Spring tree planting and afforestation are being extensively carried out in Fujian Province. According to statistics the province has afforested 730,000 mu of land and leveled land and dug holes in another 1.5 million mu in preparation for tree planting. [Beijing Xinhua Domestic Service in Chinese 0057 GMT 27 Feb 81]

FUJIAN SUGARCANE PRODUCTION--Fujian Province has reaped a bumper sugarcane harvest in 1980 and is expected to produce 70 million dan of sugarcane. The sown area of sugarcane was increased by 30,000 mu in 1980 and field tending was promoted. This accounted for the increased production despite unfavorable weather throughout the year. The total irrigated area for sugarcane planting in the province amounted to about 400,000 mu. [HK021056 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 21 Jan 81]

CSO: 4007

SYSTEM OF RESPONSIBILITY FOR PRODUCTION PAYS OFF

Guangzhou NANFANG RIBAO in Chinese 17 Dec 80 p 1

[Article by Sun Haotian [1327 3185 3240] and Wang Qicong [3769 0796 5115]: "Zhongshan County Increases Grain Output by More than 100 Million Jin This Year in a Strengthening of the System of Responsibility for Production That Stirs the Initiative of the Masses"]

[Text] Zhongshan County, the foremost grain-producing region in Guangdong Province, had an across-the-board bumper harvest in agriculture this year. As a result of a countywide readjustment in the cropping pattern, the area planted to rice declined from last year, yet both total output for the early and late crops and yields per unit were the highest ever recorded. Paddy rice output totaled over 130 million jin more than last year, an increase of 16.5 percent and a 9-percent increase over the highest level in history. Yields per mu averaged 1,161 jin, an increase of 173 jin over last year. Total output of sugarcane is forecast at 500,000 tons, a 120,000-ton increase over last year. Peanut output totaled more than 200,000 dan, an increase of more than 30,000 dan over last year. It is expected that distributions to commune members will increase by 51 yuan over last year.

In its attainment of a bumper harvest in agriculture this year, Zhongshan County made major tasks of both distribution according to labor and the strengthening and perfecting of systems of responsibility for production. Beginning last year with the preparations for planting, the County CCP Committee summarized and disseminated several workable forms of a system of responsibility for production created by the masses. It sought to bring about development throughout the county of a system of labor management to gradually replace "contracting for work in small segments with remuneration for piecework" with uniform contracting for production with teams, workers, and specialties. Except for six production teams, the more than 3,900 production teams throughout the county set up different forms of systems of responsibility for production. For many years agricultural production at the Gangkou Commune had been in a state of fluctuation without progress. This year 70 percent of the production teams implemented a system of responsibility featuring uniform contracting for production with teams of workers, while the remaining production teams instituted a system of contracting for small segments with remuneration for piecework. As a result, total

grain output this year increased by 13 million jin over last year, changing the situation of many years of fluctuation without progress.

In order to achieve an overall balance in increased output, Zhongshan County also adopted flexible measures and offered preferential pay in order to bring to the fore active factors existing in poor teams to help them rapidly change their backward condition. This county's 890 poor teams, where average per capita distributions were less than 90 yuan, formerly constituted a drag on the entire county. This year the County CCP Committee decided to make suitable adjustments to their requisition grain purchase quotas and to other quota purchases for agricultural byproducts. After making sure of steady increases in grain production throughout the county, it permitted them to suitably increase the area planted to economic crops, in a change from the single crop economic structure. During the year, 730,000 yuan of funds were used to support poor teams, and 7.2 million jin of excess grain quotas were readjusted to become excess grain purchases. After a year of experience, more than 80 percent of the poor production teams in the county have made preliminary changes in their condition.

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NANHAI COUNTY HAS BUMPER GRAIN HARVEST

Guangzhou NANFANG RIBAO in Chinese 17 Dec 80 p 1

[Article by Correspondent Zou Canhua (6760 3503 5478): "Nanhai County Has Bumper Grain Harvest This Year; Rice Yields Break 1400 Jin per Mu; Total Output Better Than Last Year by 70 Million Jin"]

[Text] Nanhai County had a bumper grain harvest this year. Output of paddy rice for the entire year totaled 170 million jin--a 70 million jin or 10-percent increase over last year. Average yields per mu broke 1,400 jin, more than 140 jin higher than last year. Both total output and yields per unit exceeded the highest levels in history. Every one of the 10 grain-producing communes in the county had increased output, and every production brigade had a bumper harvest.

According to local cadres and masses, the reason for this year's bumper grain harvest in Nanhai County was reliance on "a combination of the power of government policies, the efforts of the people, and the heavens."

This year Nanhai County continued to carry out the programs and policies of the Third Plenary Session of the 11th Party Central Committee, and to enhance and perfect various forms of a system of responsibility for production to arouse the enthusiasm for production of the broad masses of commune members. At the same time, it gave prominent attention to the following matters in the measures that it took for production. First, it vigorously trained an agricultural cadre corps and launched a mass campaign of scientific farming. During the year, the production brigade leaders of the county's almost 200 grain-production brigades participated in a 50-day course on farming techniques, systematically studying rice farming, plant protection, soil fertility, seeds, and other such basic courses. Second was the spreading of superior seeds, increased applications of fertilizer, and spreading of knowledge about the scientific use of fertilizer. This year an average of more than 40 jin of fertilizer per mu was spread. The area of fields to which the stalks of the late rice crop and the three vines (peanut vines, melon vines, and bean vines) was returned was greater than last year, amounting to more than 50 percent of the total ricefield area. Third, vigorous support was given to poor teams to improve their low output fields. Early this year, the County CCP Committee promulgated measures tendering support in manpower, material resources, and financial resources to production brigades whose rice yields were less than 800 jin per mu and whose members received distributions averaging less than 130 yuan, as well as to production teams in which distributions averaged less than 100 yuan per capita. Almost 1 million yuan were given in financial support alone. In addition, more than 1 million jin of chemical fertilizer were supplied.

ECONOMIC, GRAIN CROPS IN HUA COUNTY INCREASE OUTPUT

Guangzhou NANFANG RIBAO in Chinese 12 Dec 80 p 1

[Article by Zhou Qigang [0719 0796 0474], "Following Expansion in the Growing of Economic Crops in Hua County, Grain Output Increases For 2 Consecutive Years; Readjustment of Pattern Agriculture Contingent on Total Grain Output Increases"]

[Text] In the process of readjusting its pattern of agricultural production, Hua County has given attention both to the development of economic crops and to the insuring of continued increases in grain production. Following readjustment throughout the county last year, which saw the growing of economic crops on 10,000 mu of former ricelands, this year another 17,000 mu of the 360,000-mu riceland area has been designated for conversion to fish ponds for the raising of fish or to other crops. Despite these reductions in area, total grain output increased as a result of efforts to increase per unit yields. In 1979, following increases in production for 2 consecutive years, total grain output again increased by 17 million jin. Preliminary statistics for this year show a possible increase in total grain output of 12 million jin--a 3-percent increase (not including peanut to grain conversion). Pond fish and other economic crops have also shown increased output and increased earnings. Peanut output increased by 1.96 million jin, for a 13-percent increase. The total sum spent in the county on purchases of agricultural byproducts (not counting the portion bought at negotiated prices) increased by 2 million yuan over last year.

Last year, Hua County made appropriate reductions in its grain area in order to expand planting of some economic crops. Throughout the county, both the total output of paddy and the per unit yields of paddy exceeded the highest levels in history, and per capita distributions averaged 155 yuan, an increase of 23 yuan over the previous year. In order to tap the potential for a diversified economy, the County CCP Committee decided that while fulfilling state requisition purchases quotas, and without reducing total grain output, it would further readjust the pattern of production this year. It determined to dig 3,500 mu of new fish ponds, to expand peanut acreage by 8,000 mu, to grow flowers and trees and huang jiang [7806 1203] on 4,000 mu, and watermelons on 2,000 mu. At the same time, it put forward four views for every jurisdiction. The first is to act according to one's capabilities. When readjusting the pattern of production, one must first figure up the amount of grain needed for transfer upward, for personal consumption, for seeds, for animal feed, and as reserves, making rational

readjustments to the extent that circumstances permit. The second is to do a good job of scientific farming, increasing per unit yields of grain through any means, thereby maintaining total grain output at the original level or a little higher. The third is to be cautious in readjustment, arranging for plenty of conversions and having contract items, e.g., conversions of fish for grain or oil for grain, etc. The fourth is to closely adapt general methods to specific situations in order to make fullest use of local advantages.

Because the guiding thought was clear and definite, total grain production increased despite the reduction in the area devoted to rice. The 20,000 mu of lowlying land and the 30,000 mu of upraised fields formerly required much work and high cost to grow rice, and output was low. After they were converted to the raising of fish or the growing of other economic crops, a relative concentration of manpower, material resources, and funds resulted, which assured an increase in rice output. In particular, in communes and brigades with a shortage of manpower relative to the amount of fields, the effectiveness was even more noticeable. Tianpu commune, with numerous fields and a shortage of manpower, this year converted more than 2,100 mu of lowlying fields to fish ponds and more than 1,400 mu of upraised fields to the growing of peanuts, after which grain output is estimated to increase by 70,000 dan--a 12-percent increase over last year.

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CSO: 4007

FOSHAN PREFECTURE INCREASES FARM OUTPUT

Guangzhou NANFANG RIBAO in Chinese 18 Dec 80 p 1

[Article: "Overall Increases in Agriculture, Industry, and Sideline Occupations This Year in Foshan Prefecture Through Implementing Policies, Making the Most of Advantages, and Using the Rich To Help the Poor"]

[Excerpts] Agriculture, industry, and sideline occupations throughout the prefecture increased output overall this year. Rice yields amounted to 1,130 jin per mu, an increase of 118 jin over last year, and total output showed an increase of more than 500 million jin, or 10 percent, over last year. Both yields per unit and total output exceeded highest levels ever recorded. Total output of peanuts increased 36 percent over last year. Both per unit and total output of sugarcane increased 22.7 percent over last year. Silkworm cocoons and soybeans also registered varying degrees of increase. Expected increases in gross income and profits from commune and brigade enterprises are 21 and 16 percent, respectively, over last year. Average per capita distributions to commune members throughout the prefecture may reach more than 170 yuan, an increase of more than 20 yuan over last year. In 6 of the 12 counties and cities in the prefecture, average per capita distributions were greater than 200 yuan. For the first time there were no counties with distributions of less than 100 yuan. As a result of the bumper grain harvest, consumption grain for commune members this year amounted to 574 jin, an increase of more than 30 jin over last year. Ninety-seven percent of the requisition grain purchase quotas for the prefecture have been fulfilled. It is expected that once they have been completely fulfilled, an additional more than 100 million jin can be sold at negotiated prices.

Foshan Prefecture is the centralized area for the production of commodity grain in Guangdong Province. It is also the major commodity production base for sugarcane, silkworm cocoons, and pond fish. Grain yields already exceeded 1,000 jin per mu last year, and average per capita distributions to commune members throughout the prefecture amounted to 145 yuan. Nevertheless, both grain output and average per capita distributions to commune members varied greatly from one county to another and from one commune to another. In some counties and municipalities, grain yields were more than 1,300 jin per mu and average per capita disbursements were more than 200 yuan, while in other counties grain yields were less than 1,000 jin per mu and disbursements per capita averaged less than 100 yuan. Between one commune and another and one brigade and another, the

imbalances were even more prominent. At the end of last year, 70 percent of the production teams throughout the prefecture had average distributions of less than 50 yuan per capita.

Of the 1,993 production teams throughout the prefecture that had per capita distributions averaging less than 50 yuan last year, more than 60 percent showed increases of from 20 to 30 yuan this year, in an initial change of their backward condition.

9432
CBO: 4007

BRIEFS

GRAIN, OIL STORAGE--Guangdong Province has had a bumper harvest this year from its spring and autumn plantings of peanuts, with total output exceeding highest recorded levels. Grain units at all levels have diligently implemented state edible oil requisition purchase policies, and the broad masses of farmers have joyfully sold edible oil to the state. Building from the requisition purchases of edible oil in the summer, which had fulfilled 95 percent of the annual quota, each locale has continued to work hard at getting the edible oil from the autumn season into warehouses. As of 15 December, the amount of edible oil stored throughout the province already amounted to 100,930,000 jin, an increase in requisition purchases of edible oil during the same period last year of 2.65 million jin, and exceeding by 2.73 million jin the state requisition purchase quota of edible oil for the year. Now numerous communes and brigades are continuing to sell excess oil to the state. [Text] [Guangzhou NANPANG RIBAO in Chinese 20 Dec 80 p 1] 9432

ROSIN OUTPUT--Rosin production in Guangdong Province was comparatively good this year. As of November, there was an 11.1 overfulfillment of production quotas for the whole year, and an increase of more than 7,000 tons in output over the same period last year. This year full use was made throughout the province of the advantages offered by mountain areas, and each leadership echelon gave serious attention to rosin production, making it a major task for helping mountain regions become prosperous with all possible speed. They also gave serious attention to the implementation of economic policies for mountain areas, suitably increasing the requisition purchase prices paid for pine resin and rosin, thereby increasing benefits for and stimulating production by communes, brigades, and rosin farmers as well as forest chemical enterprises. In addition, they gradually expanded the autonomy of enterprises, taking into account the welfare of the state, enterprises, and individuals simultaneously in order to achieve increased production and increased earnings. Commercial and foreign trade units also acted to support production, with the result that rosin farmers derived tangible benefits. Every commune and brigade again improved management for the gathering of resins, instituting fixed sectors, fixed quotas, fixed times, fixed quality, and fixed remuneration, with rewards for excess production to arouse the enthusiasm of the rosin farmers for production, thereby bringing about a great increase in the quantity of output of resin collected during the peak season. [Text] [Guangzhou NANPANG RIBAO in Chinese 20 Dec 80 p 1] 9432

DROUGHT FUNDS--Since autumn last year, rainfall in various areas of Guangdong has been scarce. In the past few days, although there have been some rainfall, the drought situation is still very serious. Therefore, the Guangdong People's Government recently held an emergency conference on combating drought and to make plans on combating drought throughout the province. The participants at the conference have decided on preliminary measures to combat drought. As a result, the various subordinate units and departments have allocated 3,000 tons of engine oil, 170 tons of petroleum and 700 tons of cement to support the various areas' efforts to combat drought. At the same time, the people have also bought 10,000 rounds of ammunitions from Sichuan in an attempt to make rain. The provincial financial revenue department has also allocated 650,000 yuan to support drought-stricken areas spring farming work. [HK260710 Guangzhou Guangdong Provincial Service in Mandarin 2345 GMT 21 Feb 81]

SPRING FARMING CIRCULAR--On 20 February, the Guangdong Agricultural Committee issued a circular, which demanded that the various areas seriously grasp spring farming and reap a bumper harvest of agriculture this year. The circular said that it is necessary to rapidly strengthen leadership over spring farming since spring arrived early this year, concentrate labor forces to take part in spring farming, stabilize the system of production responsibility and persist in resisting the natural disasters to reap bumper harvest. According to analysis of the meteorological departments, before mid-April rainfall throughout the province will still be scarce. Some meteorological signs show that a spring drought which could affect rice might occur this year and severely hamper spring farming. At present, it is necessary to pay close attention to changes in climate, and cultivate more seedlings with plastic sheets. This year, the areas sown with rice must generally not be reduced. It is also necessary to continue to grasp work on the collection of manure, and collect more miscellaneous indigenous manure, farm manure and pond soil. [Guangzhou Guangdong Provincial Service in Mandarin 2345 GMT 21 Feb 81]

LATE RICE OUTPUT--More than 32 million mu of late crop rice has been virtually harvested in Guangdong Province, and a total increase of more than 800 million jin over last year's output is forecast. A characteristic of the bumper late rice harvest this year in Guangdong Province has been balanced increases in production over large areas. Foshan, Shantou, Zhanjiang, Huiyang, Meixian, Hainan, Zhaoqing, Shaoguan, and Guangzhou prefectures have all increased output. The weather for the late rice crop in Guangdong Province was quite good this year. Apart from the fine weather, the main reasons for increased output have been timely transplanting of the rice, sufficient amounts of fertilizer, and meticulous care of the fields. Foshan Prefecture, which is commonly known as the "granary" of Guangdong, had a 90-percent fruiting rate for the late rice crop this year. The total late rice crop output for the prefecture this year was more than 200 million jin higher than for the same period last year. All 12 counties in the prefecture had increased output, with output increases the greatest in Taishan, Kaiping, Enping, and Zhongshan counties. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 22 Nov 80 p 1] 9432

CSO: 4007

BRIEFS

SPRING FARMING, PREPARATIONS--By 15 February, the peasants in Nanning Prefecture have plowed 4,971,800 mu of farmland, an increase of 827,100 mu over the corresponding period in 1980; collected 1.2 billion dan of various types of manure; and planted 1,366,100 mu of spring corn, accounting for 67.1 percent of the total planting area. This is an increase of 343,800 mu over the corresponding period of last year. At the same time, planting of sugarcane and peanuts was also higher than the same time last year, with better quality. Early last winter, the party committees at all levels in the prefecture transferred 3,100 cadres from the prefecture, county and commune levels to the basic-level units in order to do a good job of spring farming and farming preparations. By the end of January, 86.2 percent of the production teams in the prefecture had implemented the various system of production responsibility. [HK251448 Nanning Guangxi Regional Service in Mandarin 1130 GMT 17 Feb 81]

GUANGXI RALLY ON AFFORESTATION--The Nanning Municipal People's Government held a mobilization rally on the afternoon of 10 January to commend advanced units in afforestation. Some 1,000 responsible comrades attended the rally. (Wei Chunshu), mayor of Nanning municipality, made a report and Gan Ku, vice chairman of the Regional People's Government, spoke at the rally. In 1980, Nanning municipality planted some 120,000 trees and completed afforestation for an area of 1,300 mu. Some 50 units were commended at the rally. In conclusion, the rally further called for more efforts on afforestation. [HK070634 Nanning Guangxi Regional Service in Mandarin 1130 GMT 13 Jan 81]

CSO: 4007

HEBEI

BRIEFS

HEBEI PIGS--In 1980, Hebei purchased 5.456 million pigs and sold 4.329 million pigs to butchers. A comparatively large increase over 1979, attaining a record high. In the same year, the province reduced the price of pork on five occasions and exempted the tax on sale of pork. The purchase of pigs in 1980 increased by 600,000 head over 1979, while sales increased by 360,000 head. [Shijiazhuang Hebei Provincial Service in Mandarin 0430 GMT 16 Jan 81]

CSO: 4007

BRIEFS

HEILONGJIANG GRAIN-DRYING CIRCULAR--The Heilongjiang Provincial People's Government recently issued a circular calling on various grain departments to make best use of existing technology to dry grain to guarantee the safety of stored grain. The circular also called on various transport and communications departments to allocate vehicles to transfer the grain to other localities. Power, commercial and materials departments are urged to ensure supplies of electricity, coal and oil needed in drying grain. [SK212240 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 20 Feb 81]

HEILONGJIANG HOUSEHOLD PRODUCTION--Harbin, 23 Feb (XINHUA)--The average annual income of commune members in Hulin county, Heilongjiang, has increased to 260 yuan since the county adopted a policy of encouraging them to develop household sideline production. By the end of last year, the number of pigs raised by commune members had reached 34,000 head, while the number of oxen, sheep and rabbits raised by them had reached 900, 4,200 and 11,500 head respectively. [Beijing XINHUA Domestic Service in Chinese 0029 GMT 23 Feb 81]

GRAIN STORING--The Heilongjiang Provincial People's Government held a telephone conference 26 February urging governments at all levels to strengthen leadership over drying and storing grains. The conference disclosed: heavy snowfalls last October and sustained high temperatures since then have caused the province many difficulties in drying and storing grain. Without effective measures, it is very likely that a large amount of grains will mildew. Therefore, all localities must have greater confidence, rely on improved drying techniques and double their efforts to assure that all grains are properly dried and stored. [SK271024 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 26 Feb 81]

CSO: 4007

HENAN

BRIEFS

HENAN DISASTER RELIEF TEAMS--The Henan Provincial People's Government has organized two production and disaster relief teams composed of cadres from departments concerned. The teams set out for Xinyang and Zhumadian prefectures on 10 February to inspect the life of the masses in disaster areas and launch disaster relief through production. Provincial CCP Committee Secretary and Vice Governor Li Qingwei has also left to inspect the situation in the disaster areas of Xinyang prefecture. [HK231042 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 18 Feb 81]

CSO: 4007

HUBEI

BRIEFS

HUBEI AFFORESTATION CONFERENCE--The Hubei Provincial People's Government held a telephone conference on the evening of 11 February on afforestation. The conference was presided over by Vice Governor Huang Zhishen. Governor Han Ningfu urged the participants to do a good job in afforestation. He called on the people in the province to bring forward the Yanan spirit and work arduously for afforestation. He called for strengthening leadership over this work, and promoting science in afforestation. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 12 Feb 81]

CSO: 4007

BRIEFS

HUNAN RURAL DISTRIBUTION WORK--Distribution work in the rural areas of Hunan Province has been completed on the whole. As revealed in the recent meeting held by the Provincial Agricultural Committee, income of peasants was expected to show a slight increase over 1979 despite a drop of 2 billion jin in grain production. The reason for this was they adopted a flexible policy and there were more opportunities for production. Distribution work has been completed in accordance with the principle of remuneration according to labor. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 6 Jan 81]

HUNAN RURAL YEAREND DISTRIBUTION--Yearend distribution work in the rural areas of Hunan Province has begun. Despite natural disasters in the province and a slightly lower level of production, peasants' income was expected to increase slightly. Leaders at all levels have attached importance and strengthened leadership over yearend distribution work. There were counties and municipalities where the average per capita distributed income was above 150 yuan, communes where it was above 200 yuan, brigades above 300 yuan and production teams above 400 yuan. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 7 Jan 81]

HUNAN SPRINKLING IRRIGATION--About 92 counties and cities in Hunan Province have practiced sprinkling irrigation. The total installed capacity amounted to some 70,000 horsepower and an area of 640,000 mu was irrigated in this way. The sprinkling irrigation method has speeded up production of major crops. [Changsha Hunan Provincial Service in Mandarin 1100 GMT 12 Jan 81]

CSO: 4007

BRIEFS

PIG PROCUREMENT--In 1980 Yancheng County, Jiangsu, sold 400,000 head of pigs to the state, or overfulfilled 70 percent of the annual procurement plan. Last year the county raised a total of more than 940,000 head of pigs, thanks to implementing the party's policy of encouraging private pig raising while developing collective pig raising. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 13 Feb 81]

COCOON HARVEST--Following a bumper spring and summer cocoon harvest in Jiangsu Province, another bumper cocoon crop was harvested in the autumn. In Yangzhou, Zhenjiang, and Nantong prefectures, silkworm cocoon output showed a more than 10-percent increase over last year. In Xuzhou Prefecture, the increase was 20 percent. The increase in Huaiyin Prefecture exceeded 30 percent. Throughout the province, 752,000 dan of silkworm cocoons have already been purchased by the state--a 16.7-percent increase over last year. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 24 Nov 80 p 5] 9432

JIANGSU PREFECTURE GRAIN PRODUCTION--Nanjing, 18 Feb (XINHUA)--Suzhou prefecture in Jiangsu Province has worked out 10 measures to insure a steady increase in grain output this year. They include fixing reliable production targets, stabilizing the existing grain acreage, making the rural labor force serve agriculture first, continuing to readjust the acreage of triple-cropping fields in a planned way, concentrating local financial sources on agriculture, improving soil in order to maintain ecological balance, effectively planting single-cropping rice fields, reducing the cost of agricultural production, implementing various systems of responsibility in production in an all-round manner, and continuing to pay keen attention to the key grain production areas. [Beijing XINHUA Domestic Service in Chinese 1258 GMT 18 Feb 81]

CSO: 4007

JILIN

BRIEFS

PADDY FIELDS EXPANDED--Communes and state-owned farms in Huaide, Lishu and Shuangliao counties--three marketable grain bases in Jilin Province--decided to expand paddy field acreage by 25,500 mu this year. These communes and state-owned farms are located in the irrigation area of (Erlonghu) Dam, which is storing 443 million cubic meters of water this year. The dam stored about 150 million cubic meters of water in previous years. In view of ample water supplies, they decided to expand paddy field acreage. [SK281050 Changchun Jilin Provincial Service in Mandarin 1100 GMT 27 Feb 81]

CSO: 4007

BRIEFS

HOHHOT PEASANTS' LIVING STANDARDS--The Hohhot Municipal Statistical Bureau recently conducted a survey on the livelihood of 90 peasant families. The results show that the rural situation was stable and the peasants' livelihood improved in 1980 despite a serious drought. The total annual income of these 90 families increased 8.7 percent over 1979. The average per capita net income was 174 yuan, an increase of 13.7 percent. Compared to early 1980, savings deposits rose by 42.4 percent. Commune members' food grain distribution increased by 8.7 percent over that of 1979. The average per capita food grain, including grain harvested from private plots, was 561 jin. As to food consumption, wheat increased 34 percent, cereal oil 53.2 percent, animal fats 120.2 percent, pork 1.9 percent and beef and mutton 3.4 percent. Other foods such as poultry, fresh eggs, sugar, alcoholic beverages, cotton cloth, and chemical fabric cloth also markedly increased. As to expensive goods owned by these families, bicycles increased 14.9 percent, sewing machines 39.3 percent, radios 33.3 percent and clocks and wristwatches 18.4 percent. [SK222309 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 Feb 81]

AGRICULTURE PRODUCTION--Jirem League, Nei Monggol Region, reaped 175,000 jin of grain in 1980, overfulfilling the state procurement plan by 26 percent. In 1980 the league sold 170,000 head of livestock to the state. Its total industrial output value was higher than in 1979. Light industry grew 7.5 percent, and commune- and brigade-run enterprises grew 24.6 percent. Per capita income from collective distribution decreased by some 10 yuan, but family earnings increased because of the development of household sideline occupations. Workers dormitories with 140,000 square meters of floor space were completed in 1980. Some 2,800 families moved in. Some 13,000 idle youths were arranged jobs. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 25 Feb 81]

CSO: 4007

NINGXIA

BRIEFS

NEWSPAPER'S COMMENTARY--NINGXIA RIBAO recently published a short commentary on strengthening and improving the system of agricultural responsibility in the countryside. The commentary said this is in line with the situation in various areas and will play an even greater role in mobilizing the cadres and masses and in promoting agricultural production. The commentary pointed out that it is necessary to stabilize the present system of production responsibility. It revealed that some production teams do not understand the system of production responsibility in the current spring farming. After establishing the system of production responsibility, the party organizations at all levels must strengthen their ideological and political work efforts regarding the cadres and masses, particularly strengthening the education of the party members, so as to fully give play to their roles as the vanguard and models. [Yinchuan Ningxia Provincial Service in Mandarin 2300 GMT 21 Feb 81]

CSO: 4007

QINGHAI

BRIEFS

SPRING FARMING--Qinghai Province has organized 21 work groups composed of over 80 cadres and sent them to rural areas throughout the province to acquaint themselves with the actual situation and help grassroots units combat drought, protect livestock and conduct spring farming. On 25 February, Zhang Guosheng, secretary of the Provincial CCP Committee and governor, led a work group to Minhe County to help guide spring farming. Ga-Bu-Long, standing committee member of the Provincial CCP Committee and deputy provincial governor, led a work group to conduct investigation in farming and livestock breeding areas. [SK021045 Xining Qinghai Provincial Service in Mandarin 2330 GMT 1 Mar 81]

CSO: 4007

SHAANXI

BRIEFS

AGRICULTURAL EDITORIAL--A recent SHAANXI RIBAO editorial revealed that grain production in Shaanxi last year was seriously affected by natural disasters. Although the state has reduced the procurement tasks, commune members still received less grain from the collectives than the previous year. Therefore, this year we must not relax grain production. We must give play to the revolutionary spirit of self-reliance and arduous struggle, increase grain production and, try by every way possible means to reap a bumper harvest of summer grain. Since the areas planted with summer grain this year have been reduced by 1 million mu, it is necessary to work hard on increasing the per mu yield of summer grain. At present, the growth of the seedlings is generally better than last year. So long as the current pace of field tending continues, increasing production will be possible. Rape production should also be increased. In the 20 million mu of sown wheat throughout the province, the wet farmland accounts for 42 percent of the total area, while the dry farmland accounts for 58 percent. Thus, production potential is very high. [Xian Shaanxi Provincial Service in Mandarin 1100 GMT 24 Feb 81]

CSO: 4007

BRIEFS

SHANDONG COTTON OUTPUT--Thanks to the implementation of various systems of responsibility in production, Heze prefecture, Shandong Province, reaped a bumper cotton harvest in 1980. The total cotton output was 2.1 million dan, an increase of 3.8 times over 1979. [SK152209 Jinan Shandong Provincial Service in Mandarin 2300 GMT 13 Feb 81]

AGRICULTURAL OUTPUT--The Jining Prefectural Administrative Office recently circulated a notice of commendation in recognition of Zouxian, Jiaxiang, Yanzhou, Wenshang, Jinxiang and Qufu Counties which scored outstanding achievements in agricultural production last year. Agricultural output of Jining Prefecture was valued at 1 billion yuan in 1980, a record. [SK281059 Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Feb 81]

AGRICULTURAL PRODUCTION--Income from agriculture was 217 million yuan in 1980, an increase of 15 percent over the 1979 figure. [SK281059 Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Feb 81]

CSO: 4007

SHANXI

BRIEFS

ANIMAL HUSBANDRY--Shanxi Province has done well in promoting animal husbandry. Last year the province produced 330 million jin of pork, beef and mutton, an increase of 19 percent compared with 1979. The province also provided 55 million jin of milk, an increase of 10 percent. The average weight of pigs increased by 33 jin. The province exported 1,800 beef cattle to Hong Kong, the largest number in recent years. Shanxi now has 1.1 million cattle, 9.3 million sheep and over 5 million rabbits. [Taiyuan Shanxi Provincial Service in Mandarin 1100 GMT 1 Feb 81]

SHANXI SNOWFALL--Snow fell in most parts of Shanxi on 19 February. Precipitation was less than 1 mm in most southern counties, from 1 to 3 mm in central and southeast Shanxi, and 1 to 5 mm in the northern part of the province. This was the second snowfall in the province this winter. However, it has done very little to ease the serious drought. The province must therefore continue to work hard to fight drought. [HK231452 Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 20 Feb 81]

SHANXI COUNTY SHEEP RAISING--Taiyuan, 22 Feb (XINHUA)--Commune members in Lingchuan county, Shanxi, raised only 360 sheep in March 1979. The figure increased to over 10,000 in 1980. [Beijing XINHUA Domestic Service in Chinese 0120 GMT 22 Feb 81]

CSO: 4007

CHANGES OF CROP ACREAGES IN SICHUAN; BUMPER HARVESTS REAPED

Chengdu SICHUAN RIBAO in Chinese 18 Jan 81 p 2

[Article by Huang Peigen [7806 1014 2704]: "Summarize Experiences; Reap Continued Bumper Harvests in Agriculture"]

[Text] Since the smashing of the "gang of four," Sichuan Province has reaped bumper harvests for 4 years in a row. Diligent summarization of experiences, carrying forward of achievements, and correction of shortcomings are extremely necessary for the continued maintenance of increased output in agriculture. It is in this spirit that the several problems given below are discussed here.

Grain Production Must Be Given Continued Close Attention

During the past 2 years, the crop pattern throughout the province has been gradually readjusted in a change away from the one-sided method of devoting attention only to grain production to promotion of overall development of agriculture, for which results have been good. To a very great degree, however, this work is controlled by economic measures such as commodity prices, policies relating to award sales, and market adjustments. Consequently, while a great growth in grain production has taken place during the past 3 years, some places have relaxed grain production and an inordinate contraction in grain acreage has taken place for the expansion of economic crops, which provide large returns. During 1980 and 1981, the wheat acreage decreased 10 percent and the rape acreage expanded 37 percent throughout the province. Even in southeastern Sichuan where rape production has been quite low with yields of somewhat more than 100 jin per mu, the growing area has increased 48 percent. In western Sichuan where yields per mu of rape are double those in southeastern Sichuan, the rape acreage has increased 36 percent. It should be said that in developing rape in western Sichuan output is high, economic benefits are large, and the crop helps nurture the soil. Suitable expansion of the acreage and the development of an oil seed crop base is a great advantage for Sichuan Province. But in provincewide terms, per unit yields from rape are not high; and the area of low yields is large with 123 counties having yields per mu that are lower than the province average from an area of 3.57 million mu, which amounts to 56 percent of the rape acreage in the province. Thirty-seven of these counties, or 576,000 mu, have yields of less than 100 jin per mu. This shows that in the development of rape, emphasis should go to increasing per unit yields. One cannot simply rely on squeezing grain out in order to expand the acreage for rape. Therefore, not only in areas of low grain output but also in high output areas as well, readjustment of crop patterns must proceed from existing output levels, be based on consistent growth in

grain output, gradually achieve an adaptation of general methods to local situations, make the most of advantages, and guarantee consistent increases in grain output for an overall development of the economy.

Transformation of Winter Wet Fields Must Be Actively Undertaken

During 3 consecutive years of drought beginning in 1977, winter wet fields throughout the province declined from 20 million mu to 8 million mu. At the same time, large areas of dry fields were taken out of production, so what was to be done? The Provincial CCP Committee looked at the realities of the situation, emphasized advantages and avoided disadvantages, and incisively proposed suitable measures for traveling the dry road since the wet road was not open. It expanded by 6.6 million mu the acreage of winter grain crops; reduced by 3 million mu the acreage of spring-sown early and mid-season paddy rice, and expanded by 7 million mu the acreage of corn and sweet potatoes. This played a major role in the 3-year increase in grain output of 14.1 billion jin. In 1980 with an increase in the quantity of water in storage and partial revival of winter wet fields, a planned reduction of 1.68 million mu of wheat was made, and 1.41 million additional mu of early and mid-season rice was planted. This fairly well compensated the conflict between spring sown crops and late-autumn sown crops, and promoted a bumper harvest of rice to play a decisive role in increased output for the entire year. However, noteworthy was the increase over most years in the quantity of water stored, so that those areas that could be assured of irrigation preferred not to change their winter wet fields, but rather expanded their winter wet fields, placing expectations for increased output for the entire year on the output from the paddy rice crop of a single season. Consequently, in 1981, the acreage for late-autumn sown grain crops decreased by a further 1.8 million mu. This not only increased the difficulties of obtaining consistent increases in grain output, but was also disadvantageous to increasing the multiple cropping index, and in regulating the conflict for land between grain crops and economic crops. The lessons of long experience tell us that whenever the water conservancy situation permits, gradual planned transformation of winter wet fields in a change from one crop each year to two crops each year can both make the most of late-autumn sown crop advantages and can also take account of spring sown crop increases in output. From both the current and long range view, this is the road to which Sichuan Province must hew in development of its agricultural production. The job of transforming winter wet fields was formerly taken when autumn had arrived. Because of a lack of mental preparation, and because necessary conditions had not been created for the delineation of field plots and the arrangement of crops, as soon as a fairly large amount of rain fell in the autumn, plans for the transformation usually came to nothing. Henceforth, an early delineation must be made even before the planting and transplanting of spring-sown crops. The winter wet fields planned for transformation must, to the maximum extent possible, be contiguous, have water sources in common, permit ready irrigation of late-autumn sown crops, and have water available for the propagation of seedlings and for use by people and livestock. Initiative should be taken in the layout of paddy rice with fields to be used for the planting of late-autumn sown crops not being used for the planting of late rice, but best used for early ripening mid-season rice. During the late stages of caring for the paddy rice, specific people should be designated to drain off water at the right times to dry the fields, and after the autumn harvest, time should be used

to undertake the transformation of the fields for the planting on time of the late-autumn sown crops. In making arrangements for spring sown crops in the planned transformation of winter wet fields, autotrophic crops such as broad beans, green manure, and rape should predominate, or else early ripening crops such as barley should be planted so that once the area of two crops each year has been enlarged, the conflict in the sequential dovetailing of spring-sown and late-autumn sown crops can be solved.

Promotion of Superior Varieties Must Be Active and Safe

Sichuan Province has had outstanding successes with increased output from hybrid rice and hybrid corn. In 1978, however, some areas were hurt by high temperatures and dryness, so output of hybrid rice was not ideal. In 1979, promotion of hybrid varieties was difficult and a supply of more than 10 million jin of seeds piled up in the province and remained unsold. In that same year, seed propagation was not very active either. For the last 2 years, hybrid rice has brought in bumper harvests everywhere with large acreage yields of 1,000 jin. As a result, some places do not want to restrict themselves to existing possibilities for propagating seeds, but rather send people off to other provinces to bring back large quantities of seeds. It should be realized that such ways of doing things provide no assurance about the quality of seeds and contain an element of blindness in them. Places in Sichuan Province that have a good foundation for the growing of hybrid rice also propagate seeds and have ample supplies of seeds. The acreage is large, per unit yields are high, the masses have mastered seed propagation and growing techniques, and conditions exist for further expansion. In places with a poor foundation where seed propagation and planting techniques are inadequate, the supply of seeds is scant, acreage is small, per unit yields are not high, there is urgent need for large shipments of seeds, for which there is no assurance. In these places, one should, according to existing sources for seeds, do a good job of distributing seeds for these areas, and plant sufficient quantities of available seeds in an effort to get high output and to actively achieve a consistent development. Vigorous efforts should be made to promote the two-stage seedling cultivation method in greenhouses and to increase the seedling maturation rate. This is both a measure for high output and a way of solving the shortage in supply of seeds, as well as a way to enlarge the transplantation area. In summary, 30 years of experience attests that in the promotion of superior varieties, every time a major breakthrough occurs, a great increase in crop outputs follows. But promotion of existing superior varieties must depend on the local establishment of superior variety bases. Also, the system of seed propagation should be advocated by the prefectures with seed production being done by the counties, or else both propagation and production being done by the counties. Seed propagation contracts may be signed with communes or production brigades to establish a unified supply of seeds. Substantial improvement in the quality and quantity of seeds must also be achieved to meet the needs of agricultural development.

XINJIANG

BRIEFS

XINJIANG DRINKING WATER PIPELINES--Urumqi, 20 Feb (XINHUA)--Altay prefecture, Xinjiang, recently built seven drinking water pipelines with a total length of over 1,000 km. Nearly 400,000 head of livestock have safely entered the central grassland in the Junggar basins for the winter. All the pipelines were built on the Ertix River, the Ulungur River and the Junggar basins. [Beijing XINHUA Domestic Service in Chinese 0017 GMT 20 Feb 81]

XINJIANG ANIMAL PROTECTION CIRCULAR--The Xinjiang Regional People's Government has issued a circular calling on all localities to pay attention to weather conditions and to move animals from winter to spring shelters at the appropriate time, citing forecasts that a severe coldspell may occur in April this year. It also calls for full preparation to protect animals against natural disasters. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 23 Feb 81]

XINJIANG DROUGHT PREVENTION--Since last winter party and government organs at all levels in Altay prefecture in Xinjiang have concentrated efforts on protecting animals against natural disasters. As a result, the death rate among animals was less than 1 percent at the end of January 1981. Measures are also being taken to combat a possible spring drought. [OW231345 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 22 Feb 81]

XINJIANG DROUGHT MEETING--The Changji Hui autonomous prefecture in Xinjiang recently held an emergency meeting on preventing and combating drought. In order to reap a bumper harvest this year, the prefecture called for efforts to raise per-mu yield, set up a command post to combat drought, sink more wells, dredge irrigation ditches, repair water reservoirs and strengthen leadership over organizations in charge of irrigation work and to use water in a planned way. [OW231345 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 22 Feb 81]

CSO: 4007

COMMENTARY ON NOTICE TO STOP DESTRUCTION OF FORESTS

Hangzhou ZHEJIANG RIBAO in Chinese 6 Dec 80 p 1

[Article: "Firmly and Quickly Stop the Evil Practice of Destroying Mountain Forests"]

[Text] On 5 December, the Zhejiang Provincial Government issued a "Notice To Firmly Halt the Destruction of Mountain Forests." This was an important measure for protecting forest resources and for assuring fulfillment of state procurement plans for lumber and mao bamboo. Every echelon of party organization and government throughout the province should propagandize this "notice" with great fanfare and implement it. The vast numbers of cadres and masses of people throughout the province should diligently adhere to the "notice," and firmly and quickly stop the evil practice of destroying mountain forests.

Ever since the Third Plenary Session [of the 11th Party Central Committee], every level of party organization and government throughout the province have enhanced leadership for the building of mountain areas, have rectified production programs, and have readjusted economic policies in order to arouse the initiative of farmers in mountain regions for promotion of the development of the economy in mountain regions. During the past several months, however, an evil wind of mountain forest destruction has risen in many places where there is reckless cutting and denuding of timber and mao bamboo and blind development of processing industries. In some places there has been an invasion and plundering of state-owned and collectively owned timber and mao bamboo, which have been sold at high prices. In other places there has been wholesale "condemnation of the green mountains," with the institution of profiteering and speculation. This evil wind continues to spread elsewhere, and unless it is firmly halted, serious damage will inevitably be done to the national economy and the people's livelihood, and a legacy of disaster will be left to later generations. It is as some of the masses said, "For brief prosperity, hardship for several generations." We must fully appreciate the serious damage caused by the destruction of mountain forests, and resolutely combat the evil practice of destroying mountain forests.

Nowadays some comrades use the excuse of enlivening the economy of mountain regions and making the farmers rich to indulge in wanton cutting and denuding. This is completely wrong. It must be pointed out that when we talk of enlivening the economy of mountain areas, we mean working from the special characteristics

of the mountain areas to rectify production programs and to adapt general methods to local circumstances to develop production in agriculture and forestry and to diversify the economy, so that commune members will be able both to increase their current income and to assure their long-term welfare. We are decidedly not talking about disregarding long-term welfare and cutting down timber and mao bamboo to sell at high prices and earn some ready cash. Wanton cutting and denuding of timber and mao bamboo for sale at high prices most decidedly is not a way of enlivening the economy of mountain regions, but rather of destroying the economy of mountain regions. We must make a clear distinction about this, educate and guide the farmers in broadening avenues of production, energetically promote benefits for mountain regions, and solidly develop the economy of mountain regions. We certainly cannot have anything to do with dishonest practices, much less use the excuse of enlivening the economy to do whatever we please and damage the welfare of the state and of the people.

In order to firmly and quickly put a stop to the evil practice of destroying mountain forests, forceful economic and administrative action must now be taken. There is a need to firm up mountain forest ownership rights. No matter whether rights of ownership are the state's, the communes', the brigades', the production teams', or the individual's, there should be no further change in them, and all should be protected by the laws of the land. All forests owned by communes and brigades or the state should be cut in accordance with plans, with no cutting should be allowed in excess of the planned quantity of growth. The policy of quota purchases of timber and mao bamboo must be adhered to, and there must be effective strengthening of management over timber and mao bamboo and a restructuring of enterprises that process timber and mao bamboo. There must be a concurrent strengthening of the legal system in order to control the forests through law. Citations and rewards should be given those meritorious units and individuals that protect the forests, so as to make protection of the forests glorious and destruction of the forests disgraceful as prevailing social customs. Those who "condemn the green mountains," destroy mountain forests, plunder, poach lumber and mao bamboo, engage in profiteering and speculation, and beat those responsible for caring for the forests must be severely dealt with. Ringleaders must be severely punished according to the law. In places where rampant cutting and denuding have been serious, real representative examples must be chosen for public pronouncement of judgement.

In order to effectively implement the "notice" of the Provincial People's Government, all levels of the government must buttress their leadership. All prefectoral commissioners, county supervisors, and mayors of cities should personally take this matter in hand. Cadres at all echelons should intensify political and ideological work to propagandize far and wide the importance of protecting forest resources, and to propagandize the policies and laws of the party and state. They must also exercise leadership courageously, daring to take charge. Units responsible for the administration and management of forestry, supply and marketing, labor, and commerce, for communications and transportation, for overseeing commune and brigade enterprises, and for public security, politics and law must closely coordinate their work and make concerted efforts to effectively take charge of the cutting operations, processing, marketing, and transportation of timber and mao bamboo in accordance with policies and laws, so as to achieve control without strangulation and vitality without chaos.

COUNTY GRAIN, ECONOMIC CROPS ACHIEVE BUMPER HARVEST

Hangzhou ZHEJIANG RIBAO in Chinese 13 Dec 80 p 1

[Article by Yuan Songyao (5913 2646 5069) and He Yongsheng (6320 3938 5110); "Bumper Grain and Economic Crop Harvests This Year in Sheng County; Readjustments Undertaken Following Assured Steady Growth in Grain Production"]

[Text] Sheng County has adopted an active and safe program guaranteeing, first of all, continued growth in grain production followed by planned readjustments in the pattern of production for development this year of agriculture, forestry, livestock raising, and sideline industries. Forecasts call for an increase in late rice crop output of about 20 million jin over last year from the 386,000 mu throughout the county, and a total grain output for the year of more than 600 million jin. If it were not for the need to make up for the shortfall in production in the spring and summer seasons, this would be an increase over last year's output, which reached the highest level ever recorded. Both tea and silk-worm cocoons increased by 15 and 15.9 percent respectively over last year. A substantial increase also occurred in the output of other economic crops. Commune members everywhere have reaped increased harvests and are jubilant at having money and grain.

In its readjustment of the structure of agriculture, the Sheng County CCP Committee has made grain production paramount throughout. At the outset, some places had the notion that there was not a great deal of profit to be made from growing grain, and they planned to reduce the grain area in favor of growing more economic crops. The County CCP Committee immediately convened a three-level cadre meeting in which a summarization of the lessons of experience was used to help everyone further understand the need to adhere to production plans even while undertaking readjustments, as well as how to deal properly with the relationships between agriculture and other industries, and between grain production and the production of economic crops. They reaffirmed at the same time that they were determined to stabilize the grain acreage and to focus their main attack on output per unit, proceeding therefrom to active development of economic crops. This year, the county retrenched intercropping with tea in mountain areas and expanded the area devoted exclusively to tea and mulberry groves. At the same time, it made appropriate increases in some economic crops on the basis of readjustment plans, reducing by more than 10,000 mu the area planted to grain. In this regard, the County CCP Committee aroused every commune and brigade to make

full use of small basin climatic conditions, and it made an issue of improving the multiple cropping index. This year the spring grain area was increased by 13,000 mu and the late rice area by more than 5,000 mu, thereby assuring the grain-planting area and making for steady increases in total grain output.

In the process of readjusting agriculture, the Sheng County CCP Committee paid extreme attention to respecting the autonomy of production teams and relied primarily on discussions with the masses about the local climate, water conservancy, and soil conditions, as well as time-honored planting practices and economic benefits, rather than acting in an arbitrary way. Jieqi Commune, located at an altitude of more than 500 meters above sea level, has a frost-free season lasting only 208 days of the year, and sunshine averages 2 or 3 hours less than on the plain, this makes for difficulties in growing more than one crop of rice. Accepting the situation as it is, they increased the economic crops in mountain regions and cut back the grain acreage. Wetlands were used to grow a crop of rice and a crop of wheat, and the area planted to successive crops of rice was reduced. Planting of hybrid rice was increased by reducing the cornfield area. By these means, an unprecedented bumper harvest was reaped this year. Total grain output for the entire commune amounted to 1.48 million jin, an increase of 110,000 jin over last year. Economic income increased 150,000 yuan over last year, for an average increase of 27 yuan per person over last year.

9432
CSO: 4007

MEASURES TAKEN TO PREVENT WHEAT FROM JOINTING

Hangzhou ZHEJIANG RIBAO in Chinese 13 Dec 80 p 1

[Article: "Need for Every Jurisdiction To Prevent Growth and Jointing of Wheat and Barley; Provincial Department of Agriculture Sends Letter to This Newspaper Because of Current Situation of Wheat and Barley Seedlings"]

[Text] The Zhejiang Provincial Department of Agriculture has sent a letter to this newspaper because of the current problems surrounding the growth and care of crops to be harvested in the spring. Ever since the advent of winter this year, temperatures in Zhejiang Province have been high, sunlight ample, and rainfall moderate. This has been very favorable for promoting the growth of winter crops. From everywhere have come reports of the early sprouting of barley and wheat, as well as of their rapid growth and rapid development. However, looked at in terms of latest reports from seedling monitoring points on the state of the seedlings, accumulated temperatures for barley and wheat which were planted a little early or on time have greatly exceeded those of the same period last year. Since December, temperatures have tended to continue high, accelerating the budding and development of young heads on barley and wheat. According to a survey of seedlings done by the Jiaxing Prefecture Institute of Agriculture, Zaoshu No 3 wheat planted on 25 October had already entered the six-leaf stage by early December, the leaf age increasing by more than one leaf over last year. Development of young heads reached the stage of differentiation of the outer glume, and the late double ridge stage is one development stage ahead of the same time last year. The barley and wheat sown in early November also show more rapid growth than in previous years. Pertinent data show that barley and wheat require about 700 to 800 degrees of accumulated warmth between sowing and jointing. When barley (Zaoshu No 3) has a leaf age of seven to eight leaves, and wheat (908) has a leaf age of eight to nine leaves, they enter the jointing stage. On this basis, it is predicted that the barley and wheat that was planted in Zhejiang Province a little early and some that was planted at the right time--particularly the Zaoshu No 3 barley and the 908 wheat, which have a rather strong springness--may start jointing before the end of this year. Barley and wheat seedlings that joint before the end of the year may easily be damaged by freezes and their output reduced.

Many years of experience in production have shown that tamping (pressing) the soil around wheat and barley is an effective way to prevent jointing within

the year. Tamping controls the top part of the plants while promoting growth of the bottom parts, and it advances root development and tillering while preventing the seedlings from growing prolifically, thereby producing stalks that are short and sturdy. Right now most of the barley and wheat is in the three- or four-leaf stage of differentiation, which is a good time for tamping. It is hoped that tamping will be made an important part of field care everywhere during the sprouting season, and that tamping will be done once or twice during the year.

9432
CSO: 4007

SILKWORM COCOON OUTPUT REGISTERS NEW HIGH

Hangzhou ZHEJIANG RIBAO in Chinese 21 Dec 80 p 1

[Article from Economic Crops Office, Provincial Department of Agriculture: "Cocoon Output in Zhejiang Province Again Achieves Highest Level in History; Silkworm Area Communes and Production Brigades Offer 1.22 Million Dan of Cocoons for Sale to the State, a 120,000-Dan Increase Over Last Year, Exceeding Contract Quotas By More Than 20 Percent"]

[Text] This year Zhejiang Province has once again registered a continuous increase in output of silkworm cocoons. According to preliminary statistics, a total of 1.29 million dan of silkworm cocoons were produced, an increase over last year of more than 140,000 dan, for a 12-percent increase. Cocoon production averaged 102 jin per mu of mulberry [groves], an increase of 12 jin, to achieve a new record exceeding 100 jin 'n cocoon output per mu of mulberry. Spring, summer, and autumn yields per unit and total cocoon production exceeded the highest levels ever recorded.

Substantial increases in cocoon production have taken place for 2 years in a row in Zhejiang Province, helping to moderate a shortage of raw materials in the silk industry and making a further contribution to fully utilizing the economic advantage of being the "silk capital." Communes and brigades in silkworm areas this year offered 1.22 million dan of silkworm cocoons for sale to the state--an increase of 120,000 dan over last year, and more than 20 percent above the quotas contracted for by the state. The bumper silkworm cocoon harvest also played an active role in developing and strengthening the collective economies of communes and brigades in silkworm areas and in increasing the income of commune members. For the more than 917,000 dan of cocoons that Jiaxing Prefecture sold to the state, it derived earnings of 163 million yuan--a 13.68-percent increase over last year. Figured in terms of the farm population throughout the silkworm area, that amounts to more than 54 yuan per person.

Silkworm cocoon production this year saw another large increase, principally because of the conscientious implementation of the party's economic policies for rural areas, which further aroused the enthusiasm of the broad masses of silkworm farmers for developing silkworm cocoon production. Last year the state readjusted the price paid for requisition purchases of cocoons, and this year the provincial government again decided to institute a policy of "negotiated prices for requisition purchases above a basic figure," which was welcomed by cadres and

commune members in silkworm-growing areas. Some of the silk-worm-growing area communes and brigades throughout the province established some form of responsibility system for the cultivation of mulberry groves and the raising of silkworms, and this greatly invigorated the commune members' enthusiasm for mulberry cultivation and silkworm raising. Throughout the province, both the area of fertilizer application in mulberry groves and the quantity of application of fertilizer exceeded last year's levels, resulting in a striking increase in both the quantity and the quality of mulberry leaves. Additionally, state support of silkworm and mulberry production in terms of material and financial resources was higher this year than in any other year since the founding of the People's Republic. During the 10-month period from January to October, people's banks everywhere issued more than 10 million yuan in loans of various kinds; this played a promotional role in the development of silkworm and mulberry production.

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COTTON PROCUREMENT OVERFULFILLMENT--Zhejiang Province has had a heartening bumper harvest of cotton this year. As of 20 December, a total of 1,411,000 dan of ginned cotton had been purchased by the state throughout the province, a 100.8-percent fulfillment of the unified procurement plan for the year. The quantity purchased amounted to 152,600 dan more than for the same period last year. Purchases of ginned cotton averaged 101.5 jin per mu, a 4.5-jin increase over last year. In Shangyu, Ninghai, Haiyan, and Xiangshan counties, procurement amounted to more than 120 jin per mu. In Putuo, Zhenhai, Jinhua, Lanqi, Pujiang, Yuyao, Xiaoshan, and Pinghu counties, purchased quantities were more than 100 jin per mu. In Ciqi County, purchases were 94.7 jin per mu, a 5-jin increase over last year. The quality of the new cotton purchased this year was better than last. Grade, length, and ginning outturn rate were all higher than last year. Grade 1 to 4 spinning cotton accounted for 82.7 percent of the total--a 5.85-percent increase over last year. The average price per dan of cotton, allowing for price increase factors, was 3.21 and 3.67 yuan higher for unginned cotton and ginned cotton, respectively. With the beginning of state procurement of new cotton this year, supply and marketing units at all echelons in the cotton-growing regions have diligently implemented the policies pertaining to cotton procurement. In view of the new situation this year, in which there are numerous units offering cotton for sale and a large number of coupons, a sensible number of points have been established in the procurement network and an increase has been made in the number of weighing units as a convenience for the masses in making sales. Cotton-purchasing units everywhere have actively guided communes and brigades in the "four separates" regarding cotton (separate picking, separate sunning, separate storage, and separate sales) to increase the proportion of spinning cotton procured and to increase the income of the cotton farmers. The masses of cadres and commune members in cotton-growing areas are still emphasizing doing a good job of careful harvesting and careful picking, in an effort to fill warehouses for increased production and increased income. Marketing and supply units everywhere continue to pay attention to late season procurement work and to [ensuring] a steady flow of new cotton to market areas to support production of the cotton-spinning industry. [Text] [Hangzhou ZHEJIANG RIBAO in Chinese 26 Dec 80 p 1] 9432

GRAIN AREA SET--The Zhejiang Provincial People's Government recently issued a notice emphasizing emphatically that there can be no downward readjustment in contracted grain quotas. This notice from the Provincial People's Government was a reply to a report from the Tongxiang County People's Government. The Tongxiang County report had said that in order to readjust the pattern of agriculture,

a downward readjustment in contracted grain quotas would be required. The notice from the Provincial People's Government said that in view of the large population of Zhejiang Province and uncertainties in grain production, and in order to assure the needs of the national economy and the people's livelihood and [to guarantee] steady development helpful to the national economy, it is necessary to ensure that the total grain-growing area throughout the province not be further reduced, so that grain production can steadily increase. In the spirit of the conference of provincial governors and mayors of municipalities throughout the country recently convened by the State Council, in the present situation of relative grain shortages there can be no adoption of methods to reduce the grain area as a means of reviving and developing economic crops, and the previously established quotas for requisition purchases of grain cannot be reduced. [Text] [Hangzhou ZHEJIANG RIBAO in Chinese 31 Dec 80 p 1] 9432

WENZHOU PREFECTURE BUMPER HARVEST--Grain production this year in Wenzhou Prefecture and the suburbs of Wenzhou Municipality has had a bumper year for the fourth year in a row. This year a good harvest was reaped from the late rice crop throughout the prefecture. Total output increased by 19.36 million jin over last year. Despite reduced yields in the prefecture's spring grain, early rice, and potato crops this year, thanks to a bumper harvest of later rice the total grain production for the year was still 47.75 million jin greater than last year. Yields from the 289,000 mu of late rice in the suburbs of Xenzhou averaged 785 jin per mu. Both per unit yields and total output were more than 10 percent higher than last year. In addition to making up for the reduced output from the early rice crop, total output for the entire year was still 13.84 million jin greater than last year. Ruian County, which was wracked by natural disasters this year, harvested a bumper crop of more than 210,000 mu of hybrid rice. Twenty-nine of its communes had yields of more than 1,000 jin per mu, and yields were generally 150 to 200 jin greater than for local conventional varieties. Party organizations at all levels in Wenzhou Prefecture and Wenzhou Municipality further implemented the various economic policies for rural villages this year, set up and perfected systems of responsibility for production, and aroused the enthusiasm of the broad masses of commune members. At the same time, they persevered in scientific farming, planted hybrid late-crop rice over large areas, and made a timely intensification of field care to actively fight natural disasters, thereby wresting a balanced high output over large areas from the late rice crop. [Text] [Hangzhou ZHEJIANG RIBAO in Chinese 31 Dec 80 p 1] 9432

LISHUI PREFECTURE HARVEST INCREASE--Even while ensuring no decrease in the grain area, Lishui Prefecture has given attention throughout this year to diversification of grain varieties and has adapted general methods to the local situation to develop production of soybeans, peanuts, and foodgrains other than rice and wheat. As of 10 December, 4.69 million jin of soybeans, 640,000 jin of peanuts, 140,000 jin of sesame seeds, 290,000 jin of mung beans, and 520,000 jin of red beans had been procured throughout the prefecture by the state. This total exceeded by from two to fourfold the quantity purchased all last year. Increases in these minor varieties of grain played a good role in enriching the market supply and satisfying the needs of the people's livelihood. Lishui County, where formerly there had been no sesame or mung beans for many years, now has them for sale in grain shops. [Text] [Hangzhou ZHEJIANG RIBAO in Chinese 31 Dec 80 p 1] 9432

ZHOUSHAN FISHING GROUNDS--The Zhoushan fishing grounds, China's largest, have provided 8,067,000 dan of commodity fish for export outside the province. This amounts to 57 percent of the total commodity fish that Zhejiang Province has provided the state, and one-fourth of the commodity fish in the entire country. In the 30 years since the founding of the People's Republic, the fishing industry in the Zhoushan fishing grounds has developed very rapidly. In the 1950's the fishermen had only large and small wooden junks in the 4,000-ton class. In 1951 they began to get motorized boats. By the end of 1979, they had motorized sailing ships as large as 164,000 tons. During the 1950's, fish catches averaged 2.53 million dan, whereas during the 1960's it was 4.68 million dan, a 84.9-percent increase over the 1950's. Fish catches reached their zenith during the 1970's with an annual output averaging 7.18 million dan for a further increase of 53.4 percent over the 1960's. During the past 30 years, total output has increased tenfold in annual incremental increases averaging 10 percent. Progress in keeping fish catches fresh at the Zhoushan fishing grounds has been greatest during the past several years. During the past several years, five large and small cold storage lockers have gone into production, and another eight are being either built or enlarged. The state's increase in its purchase price of fish, and particularly its policy of readjustment providing for requisition purchase of 60 percent of catches, with the remaining 40 percent being bought at negotiated prices, has been enthusiastically welcomed by the fishermen. The fishermen say this is a policy to make the people wealthy and a policy of love for the people, which has aroused initiative for production. Last year, thanks to price readjustments and the development of production, distributions to commune members increased by 79 percent. Distributions averaged 230 yuan per capita for the entire population of the prefecture, with distributions to workers averaging 780 yuan per capita; both figures were the highest ever recorded. A small number of workers received distributions of as high as 3,000 yuan and more, which was unprecedented. During the first half of this year, total income for the fishermen in the prefecture totaled 2.06 million yuan more than for the same period last year. [Excerpts] [Hong Kong ZHONGGUO XINWEN in Chinese 21 Nov 80 p 6] 9432

HUZHOU COCOON HARVEST--China's traditional major silkworm-producing area, Wuxing County in the suburbs of Huzhou City, had a total output of silkworm cocoons this year of 13,500 tons, a further increase in output of almost 10 percent over 1979, when a large increase in output also occurred. As of mid-November, the state had already purchased 12,280 tons of silkworm cocoons. The total output and quantity of commodity cocoons purchased again created maximum records. Both were the highest in the country. Huzhou silkworm cocoons are the finest in the world and are renowned in China and abroad. Located on the Hangzhou-Jiaxing-Huzhou Plain, Huzhou abuts Lake Tai. The climate is mild, the rainfall copious, and the soil fertile. It has a long history of mulberry growing and silkworm raising. There are more than 210,000 mu of mulberry groves throughout the county. In more than 5,000 production teams, mulberry is grown in every village and silkworms raised by every household. Five crops of cocoons can be produced during the spring, summer, and autumn seasons of each year. Cocoons are large and thickly layered. Fibers are uniform, color and luster is clear, and quality good. A single thread of cocoon silk is about 1,200 meters long, and some reach as much as 1,500 meters. From such fine quality silkworm cocoons is reeled natural silk of superior specifications. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 21 Nov 80 p 5] 9432

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Agricultural Science

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TITLE: "Heredity Changes of Major Characteristics of Millet Hybrid Offspring and Selection"

SOURCE: Harbin HEILONGJIANG NONGYE KEXUE [HEILONGJIANG AGRICULTURAL SCIENCES] in Chinese No 6, 10 Nov 80 pp 6-10

ABSTRACT: Since 1961, in combination with the work of hybridization and breeding of millet, the institute has kept survey records of certain essential characteristics, including the height of stalk, the length of spike, the grain weight per stalk, and the grain test weight [weight of 1000 grains] of the key groups of various types. Through statistical analysis of the data accumulated through the years, this paper summarizes the regularity of hereditary changes of major economic characteristics among the millet hybrid offspring. In view of the experience of nearly 20 years, it is the understanding of the authors that the appearance,

[continuation of HEILONGJIANG NONGYE KEXUE No 6, 1980 pp 6-10]

formation, and stabilization of new characteristics of millet hybrid offspring are closely related to the environment, the cultivation condition, and the method of selection. These are, therefore, the keys to success in millet breeding work.

AUTHOR: GAO Xianzhang [7559 2009 4545]
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TITLE: "Application of Analysis of Variance Method for the Determination of Mating Capacity of Corn Inbred Line"

SOURCE: Harbin HEILONGJIANG NONGYE KEXUE [HEILONGJIANG AGRICULTURAL SCIENCES] in Chinese No 6, 10 Nov 80 pp 16-19

ABSTRACT: Mating capacity of corn inbred line is a characteristic capable of being inherited. Ever since the heterosis effect of hybrid corn was correctly understood to be determined by the mating ability of the parent inbred line, there have been a number of studies on the subject and concepts of general mating ability and specific mating ability have been proposed. There also have been in depth studies on these concepts. Many believe in a relative independence between the two. While the former is determined by a genetic cumulative action, the latter is a compound result of dominant characteristic and genetic and environmental factors. This paper reports an experiment with 10 inbred lines as materials to record various characteristics of the hybrid offsprings, such as yield, length of ear, test weight, etc. Based upon Griffing's method of calculating the quantitative characteristics, the general mating ability, the specific mating ability, and the hereditary ability of these lines were then determined.

AUTHOR: LIANG Yachao [2733 0068 6389]

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TITLE: "Colony Structure of Gaoliang [Grain Sorghum] of 1000 jin/mu Yield and Reasonable Planting Density"

SOURCE: Harbin HEILONGJIANG NONGYE KEXUE [HEILONGJIANG AGRICULTURAL SCIENCES] in Chinese No 6, 10 Nov 80 pp 20-25

ABSTRACT: High yield gaoliang cultivation experiments have convinced the author and colleagues that under a given condition of breed and cultivation, a balanced development of the number of heads, the number of grains, and the weight of grains is necessary for the goal of high yield. In 1978, the reasonable colony structure, and the physiology and ecology of gaoliang were studied to search for some principles and physiological indices for the purpose of providing some bases for proposing measures for achieving high and stable yield. The relationship between the colony and the individual, between the number heads and the number of grains, and between the planting density, the number of heads and grains, and the yield are observed. The physiological bases of yield increase through reasonable dense planting are discussed and principles of reasonable planting density proposed.

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TITLE: "Phenological Change of Corn in Frigid Land and Its Adjustment"

SOURCE: Harbin HEILONGJIANG NONGYE KEXUE [HEILONGJIANG AGRICULTURAL SCIENCES] in Chinese No 6, 10 Nov 80 pp 25-30

ABSTRACT: Crop phenology refers to the various growth and developmental stages, such as germination, blooming, ripening, etc. of crops under the influence of the ecological environment. Using phenological phenomena to demonstrate changes of the ecological environment, crop phenology is one of the basic sciences of agricultural cultivation. Based upon experimental and survey data, this paper analyzes the characteristic of corn phenological stage of various areas of Heilongjiang. Principles of phenological changes under the effect of different climatic conditions are discussed in detail. Cultivation measures for the purpose of adjusting the phenological stage are tentatively proposed. For example, using red film to grow seedlings, the ripening time may be made 3-4 days earlier than using colorless film. Transplanted corn generally has a growth and development period about half a month shorter than direct seeded corn. Mixed application of nitrogen and phosphorus fertilizers was also found to have obvious influence on the corn phenological stage.

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CSO: 4009

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ORG: None

TITLE: "Preliminary Report of Determination of Moisture Resistance in Rape"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 5-7

ABSTRACT: The ground water table is high in the suburbs of Shanghai while during the growth and development of the rape crop, rain is rather frequent. For example, in the fall when rape is being transplanted the rain causes rotten seedlings. In the rape blooming time of spring, rain makes disease damage more serious. The threat to rape yield is much greater, therefore, during a wet year, to average a yield reduction of 18.9 percent. Aside from water conservancy construction and improved cultivation technique, the prevention of moisture damage to rape also requires a selective use and breeding of moisture-tolerant varieties. The authors carried out an experiment with transplanting 66 stalks of 4 varieties in soils with the moisture content controlled at 40.9, 41.1, 40.6, and 39.6 percent to observe the moisture damage reaction of these varieties during various stages of growth and development. Details of the experimental procedure and result are reported.

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TITLE: "Cultivation Technique of Humai No 4 Barley"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 8-

ABSTRACT: At present, Humai No 4 is one of the major cultivars of barley being extended in Shanghai suburbs. In areas free of yellow-leaf disease, its yield is about 800 jin/mu. In areas of this disease, the yield is lower, but the disease condition is milder than Zaoshu No 3. Compared with the latter, its total growth and development period is 2 days shorter, at 196 days, if planted on 11 Nov, the germination is 20 Nov, the tillering time is 15 Dec, the jointing stage is 10 Mar, the heading time on 14 Apr, and the ripening time on 25 May. Since 1976, the office has carried out a high yield experiment of this breed. Knowledge regarding the growth and development characteristics and essential measures to achieve high yield with this barley variety, gained from the experiment, is reported.

AUTHOR: HUANG Zhenxing [7806 2182 5281]
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ORG: None

TITLE: "Physiologic Forms of Rice Blast Pathogens in the Region of Shanghai and Their Distribution"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 12-13, 40

ABSTRACT: In rice production, the use of resistant high yield cultivars is an effective and economical measure for the prevention and control of blast, but in the cultivation process, the resistant breeds will gradually lose their resistance. Aside from unfavorable environmental conditions and unreasonable cultivation measures, the existence of different physiologic forms in the various areas and the rise and fall of the local dominant form of pathogens also play an important part in the loss of blast resistance of the rice breeds. From 1977 to 1979, 34 representative farm cultivars participated in an experiment conducted in 10 suburban counties to collect 93 specimens of blast pathogens. From these, 12 forms belonging to 7 groups were identified. Changes of the dominant form in various localities were gradually learned from additional field studies and the appearance of new dominant form in a given locality became predictable. Production departments have since been advised to rotate the disease resistant breeds every 3-5 years and to arrange the varieties reasonably in accordance with the knowledge thus accumulated.

AUTHOR: WANG Juning [3769 5418 2494]
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TITLE: "Relationship Between Temperature and the Propagation of Brown Leafhopper Feeding on Rice"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 16-18

ABSTRACT: Brown leafhopper is one of the major pests of rice in Shanghai. It moves to the suburbs toward the end of June, by July a second generation has been begotten, but the quantity will still be small and the early rice is generally not damaged. By the middle to late Sep, the pest has bred a fourth generation and in some years the late rice will die in large patches. In order to clarify the relationship between molting and propagation in the brown leafhopper and the reason for the fourth generation to inflict major damage on rice, a field survey and an experiment were carried out to raise third generation brown leafhoppers to study the temperature as a factor for breeding. When the temperature is 24.6-28.5°C, effective ovulation of the females is observed to be 100 percent; at above 29°C, it is only 69.2-81.8 percent. The temperature during the imago stage of the third generation is therefore closely related to the severity of damage from the fourth generation. The temperature and the available nutrients also affect the speed of development of this pest.

AUTHOR: WANG Fangtao [3769 2455 2711]

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TITLE: "Changes of Soil Nutrient Contents Before and After the Adoption of the Three-Crop System in Shanghai Suburbs"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 24, 37

ABSTRACT: In the 50's, the 2-crop system of rice-wheat (green manure, rape) was practiced in the suburbs of Shanghai. On the basis of improved breeds, water conservancy constructions, and increased application of chemical fertilizer, a 3-crop system of wheat (green manure, rape)-rice-rice and mixed grains began to be extended around 1965, with the crop repeating index raised from 160 to about 240 percent and the annual yield from an average of 1,000 jin/mu to today's 1500-1600 jin/mu. Many comrades have since been worrying about a depreciation of soil nutrients following the large scale increase of soil utilization rate and productivity. This paper reports the data of the center of the contents of organic matter, whole nitrogen, and whole phosphorus of soils of several brigades in 1963 and 1973, i.e. before and after the adoption of the 3-crop system. It is the conclusion of the author that due to yearly turning of stubble into the soil, the 6-7 fold increase of nitrogen chemical fertilizer application, the increased rate of light energy utilization, and the increase of 40 plus days to the period of soaking, the soil nutrient reserve is in fact greater now than ever.

AUTHOR: None

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TITLE: "Content and Distribution of Zinc in Shanghai Soils"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 25-27

ABSTRACT: Recent experiments and research indicate that application of zinc fertilizer in lime soils and saline soils along the coast produces good results for corn, fruit trees, and paddy rice. From 78 to 79, a survey was carried out to study the zinc contents of major soils and to draw a map of distribution of effective zinc in the Shanghai Region to provide a scientific basis for the reasonable application of zinc fertilizer. The result indicates that the content of effective zinc of soils of the region varies a great deal, from 0.25 to 11.29ppm. It is closely related to the geographical distribution, the salinity, and the degree of maturity of the soil. Detailed data of the study are reported.

AUTHOR: None

ORG: Shanghai White Swine Breeding Cooperative Group

TITLE: "A Summarization of Shanghai White Swine Breeding Work"

SOURCE: Shanghai SHANGHAI NONGYE KEJI [SHANGHAI AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 5 Dec 80 pp 41-43

ABSTRACT: After 17 years of efforts, the breeding process of Shanghai white swine has basically been completed successfully. The city now has more than 20,000 heads of breeding sows, an increase of 9 fold from 1963 of the early stage of the project. A new swine breed, with a satisfactory breeding characteristic has been established. Each sow produces 12.45 piglets on average and the weight of a 60-day old piglet at weaning time averages 16.87 kg. The average weight of a hog is 249.60 kg and 179.57 kg for a sow. The major technical measures of the breeding process are reported. At present, there remain a large percentage of swines having less than full hind portions and the initial mating time of some sows is still difficult to determine. It is hoped that continued selection and breeding of the Shanghai white swine on the current foundation will bring about further improvements.

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CSO: 4009

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TITLE: "Research on Joint Symbiotic Nitrogen Fixation of Rice Bacteria"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 10 Dec 80 pp 1-4

ABSTRACT: There are plenty of natural algae and microbes capable of nitrogen fixation, existing in rice paddies, with a nitrogen fixing capacity of 72 kg of nitrogen/hectare in some cases. Since 1975, the institute has isolated strains of microbes with varying degrees of nitrogen fixing ability from the root system of 45 varieties of paddy rice. Cytomorphological observation was carried out on the 2 strains of m-Sm-1612, and St-Sm-9021, with corresponding physiological identification and experiment of reverse inoculation in rice seedlings. Since Aug 79, with the cooperation of the Institute of Atomic Energy, the nitrogen fixing action of the joint system of rice and microbes has been studied with the ¹⁵N technique. Procedure and result of these studies are reported.

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TITLE: "Characteristics of Cold Waterlogged Fields and Ways of Improvement"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 10 Dec 80 pp 4-5

ABSTRACT: Cold waterlogged field is a low yield paddy soil of strong reduction characteristic formed from prolonged soaking. It has an extensive distribution in the mountains, hills, and the low marshes of the alluvial plains of South Fujian. The annual mean temperature of the region is 18-20°C and the annual rainfall is 1200-2000 mm. About 10 percent of the total rice acreage of the province belongs to this category. The yield had been 200-300 jin/mu from the only crop of rice in a year. Various measures have been taken in the past 1-2 decades to improve this soil. These paddies are now being used from 2 rice crops per year and the total yield has been raised to 600-700 jin/mu. The major properties of the soil, including the temperature, the moisture content, the soil microbial characteristic, the organic matter content, the chemical characteristic, etc. are described. The major improvements adopted gradually in the past 20 years are reported.

AUTHOR: ZHANG Yaolong [1728 5069 7893]
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TITLE: "A Study on the Utilization of Naked-grain Rice"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 6, 10 Dec 80 pp 7-9

ABSTRACT: Since the successful breeding of naked-grain rice, the Institute of Genetics, Chinese Academy of Sciences has carried out its cytological research, the Shanghai Institute of Plant Physiology and Shanghai Institute of Biochemistry an anatomical observation of its organs and a co-envymatic analysis. The open-glume characteristic of the naked-grain rice is believed to provide a favorable factor for creating new types of large-grained rice. Since Jun 76, the Longqi Institute has carried out continuous observations of inbred lines of naked-grain rice and their offsprings in search of possibilities of raising the fruiting rate and the grain test weight. It appears that when a late xian variety is used as the inbred material, followed by systematic selection, it is possible to raise the fruiting rate and grain test weight. The naked-grain rice obtained from hybridization of rice and wheat is infertile and afterselection through 13 generations, the fruiting rate is only 12 percent. These studies and other experimental hybridization studies are reported.

AUTHOR: None

ORG: Huluchen Base of the Institute of Rice and Wheat, Jujian Provincial Academy of Agricultural Sciences; Huluchen Brigade, Gaishan Commune, Suburb of Fuzhou

TITLE: "Technical Experience of Triple Crop High Yield of Wheat-Rice-Rice in Huluchen Brigade"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 6, 10 Dec 80 pp 10-12

ABSTRACT: Huluchen Brigade is composed of 105 households of 631 people. It has 263 mu of arable land. Since 1970, its grain production has consistently been above quota. In 1977, the wheat harvest in the spring averaged 543 jin/mu, the early rice averaged 931 jin/mu, and the late rice averaged 1127 jin/mu, to bring a total yield of 3 crops to an average of 2601 jin/mu. After this result was documented through on site studies and systematic observations, the technical experience of the brigade is summarized by the institute and reported in the paper.

AUTHOR: HUANG Bangkan [7806 6721 0170]
QI Shicheng [7871 4258 2052]

ORG: Both of Fujian College of Agriculture

TITLE: "A Record of Key Rice Pests Newly Discovered in Fujian"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 6, 10 Dec 80 pp 24-25

ABSTRACT: Since the Fujian Province Entomological Survey was launched in 1974, the authors have proceeded with a survey study of rice pests in some counties of the province. When results of this survey was added to the accumulated collection of the past, 160 plus species of rice pests were on record in the province. Of these 27 species are new for the province and one of these is a new species. Six of the 27 species are newly reported to be damaging rice crops. All 27 species are briefly listed in the paper.

AUTHOR: CHEN Genfu [7115 2704 1381]

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TITLE: "Observation of the Principle of Occurrence of Wheat Scab"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 6, 10 Dec 80 pp 30-32

ABSTRACT: Through observations and studies of several years with respect to the principle of occurrence of red scab fungus disease of wheat, the author reports the results of the following aspects: (1) The relationship between the weather and the occurrence of red fungus sack on the rice stubble; (2) Relationship between the weather and the spread of the disease; (3) Relationship between the ability of the pathogen to infect and the growth and developmental stage of the wheat; (4) Relationship between the ability of the pathogen to infect and the resistance of the variety of wheat. These studies were carried out primarily in the years from 1975 to 1977, in the region of Fuzhou.

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TITLE: "Pseudorabies Agar Trace Immuno-diffusion Experiment"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 6, 10 Dec 80 pp 33-36

ABSTRACT: In China, discoveries of pseudorabies have been reported in cats in 1947, in pigs in 1955; in 1962, it was reported to be endemic in Fujian Province among oxen and cases in pigs and dogs were also discovered at the same time. At present, incidence of this disease has been reported in 31 countries of the world. It has brought considerable loss to the animal husbandry industry. For the purpose of searching for an accurate, fast, and economical method of diagnosing this disease, a great deal of research work has been carried out in foreign countries with respect to serological diagnosis, and it is the general belief that the agar trace immuno-diffusion test is valuable for the diagnosis of this disease. As there has been no report concerning the serological aspect of pseudorabies in China, the paper introduces the experiments and results of these studies conducted in foreign countries, not specifically named, however.

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CSO: 4009

Genetics

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TITLE: "Effects of Chemical Mutagenesis on Treating Zygotes in Spring Wheat"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 4, Dec 80
pp 341-346

TEXT OF ENGLISH ABSTRACT: According to the theory of mosaicism, some investigators have considered that treating zygotes may afford an opportunity to increase the mutation rate; therefore, we designed an experiment to study the effects of treating zygotes with the chemical mutagen EMS in spring wheat.

In the present experiments the spring wheat variety Tanori was employed as the material. The chemical mutagen EMS was dissolved in a phosphate buffer solution (PH7) at a concentration of 0.3 percent (V/V), and was then applied to the wheat spike 5 hours or 15 hours after pollination (at early and late stages of zygotes) for 2 hours. In addition, they were given bleomycin (BLM) post-treatment (for two hours) so as to enhance the mutation rate, and dry seeds were treated with 0.3 percent EMS solution for six hours as a control.

[Continuation of YICHUAN XUEBAO No 4, Dec 80 pp 341-346]

The results obtained indicated that treating zygotes with EMS at any stage is, as was seen from some criteria of mutation, superior to treating the control. The treatments of zygotes would not only induce much higher mutation ratios in the M_2 generation, as compared with dry seeds, but would also bring about a broader mutation spectrum than would the latter. In accordance with the effects of mutagenesis in M_2 , the different inducing methods used in the experiments can be arranged in the following sequence: treating zygotes at a late stage treating zygotes at an early stage treating dry seeds. In the first case, the mutation ratio was 1.6 times higher than the variant of dry seeds. The results indicated also that the zygotes, through the BLM post-treatment, were seen to be equipped with an imperfect DNA-repair system of enzymes because their mutation ratio is not obviously higher than that of the variant of zygotes without the BLM post-treatment.

All the effects of mutagenesis in treating zygotes with a chemical mutagen in our work as shown above were attributed to at least three factors as follows:

1. To a large extent avoiding the mutated cells to be eliminated through selection in plant development.
2. The zygotes are of higher sensitivity to chemical mutagens than are the common somatic cells.
3. Through artificial pollination the zygotes can be easily brought within a synchronous situation.

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ORIGIN: Both of the Institute of Genetics, Fudan University, Shanghai

TITLE: "Synthesis of New Species and Cytogenetic Studies in Brassica, IV. On Genome Substitution Engineering in Brassica napus with Its Two Basic Species"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 4, Dec 80
pp 347-353

TEXT OF ENGLISH ABSTRACT: The method of genome substitution engineering was designed in this experiment so that it was possible to substitute the chromosomes between two genomes of the allotetraploid Brassica napus var. olifera (aacc) with its two basic species, B. campestris (a'a') and B. oleracea (c'c') respectively, and that the chromosomes of the substitution lines could be stabilized quickly. The experiments were carried on in both ways and each gave successful results, though with the basic species B. campestris the result obtained seemed to be somewhat better than that with the basic species B. oleracea. The chromosome number of the two substitution lines had recovered to the tetraploid level of B. napus ($2n = 38$).

Examination of PMK meiosis in both substitution lines reveals such chromosome aberrations as univalents, multivalents, lagging chromosomes, chromosome bridges,

[Continuation of YICHUAN XUEBAO No 4, Dec 80 pp 347-353]

etc., which result in the increase of sterility of either pollens or seeds. This phenomenon on substitution line I is less conspicuous than on substitution line II. The genome substitution engineering method reported here may be applied to other allopolyploid crops. Hence, this method may be considered useful for interspecific hybridization breeding with allopolyploid crops.

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TITLE: "Karyotype Analysis of Arrowhead's Chromosome and Its Phenomenon of Separating Segment of Chromosome"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 4, Dec 80
pp 354-360

TEXT OF ENGLISH ABSTRACT: The chromosome number of the arrowhead has been observed and the karyotype analyzed in this experiment. The results show that the chromosome number in each somatic cell is $2n = 2x = 22$, and that the first pair of long homologue has a submedian centromere, while the other pairs have a subterminal centromere each. However, the SAT-chromosome and the secondary constriction were not found on any chromosome present. The phenomenon of separating segment on the arrowhead's chromosome is also reported.

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TITLE: "Studies on Karyotype Analysis of Rice (Oryza sativa) Chromosomes"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 4, Dec 80
pp 361-365

TEXT OF ENGLISH ABSTRACT: The karyotype analysis and Giemsa stained region of the mitotic chromosomes in rice were studied. A lot of chromosomes on metaphase well flattened and spread were observed. The forms of the chromosomes and the special characteristics of the Giemsa stained region of all homologous chromosomes at prometaphase were identified. By the calculation of the arm ratio, we obtained four pairs of metacentrics, seven pairs of submetacentrics and one submetacentric (including a satellite pair) in the rice chromosomes.

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ORG: All of the Institute of Genetics, Chinese Academy of Sciences, Beijing

TITLE: "Cytological Study on Naked Seed Rice"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 4, Dec 80
pp 366-369

TEXT OF ENGLISH ABSTRACT: This paper shows the cytological observation on naked seed rice. A total number of 183 cells from 43 root tips and 191 PMC's from 24 anthers were analyzed. Variable chromosome numbers were observed in both the root tip mitotic cells and the PMC's. Meiotic chromosome behavior in the PMC's also showed a high degree of abnormality.

The chromosome numbers from root tips in naked seed rice were confused, ranging from $2n = 10$ to $2n = 30$. Most cells contained 18-24 chromosomes, with 74.87 percent of the total cells being counted.

The chromosome numbers in the PMC's were irregular also. They ranged from $n = 2$ to $n = 17$, with the highest frequency being $n = 10-12$ which were found in 111 cells or 58.11 percent of the total. Four, five, seven and eight bivalents in a PMC could be found in Plates 1, 3, 4, 5 and 6, respectively.

[Continuation of YICHUAN XUEBAO No 4, Dec 80 pp 366-369]

The behavior of chromosomes in the PMC's was also abnormal. Shown is one late condensing bivalent which was formed at diakinesis. It could be found that most of the bivalents were built up at the equator to form a metaphase plate with one slow-moving bivalent left behind. Multipolar spindles were observed in some cells, in which bivalents were grouped and formed more than one plate at metaphase. Also shown is a cell with three groups of bivalents, with some of them showing migration of different speeds. As a consequence of multipolar division, supernumerary cytokinesis occurred, and cells of different sizes and different chromosome numbers were observed. Unequal division was also observed. The chromosomes did not divide into two groups, and did not then move toward opposite poles. Instead, one or more pairs of the chromosomes moved to one pole, and the others to the other pole. The difference in the chromosome number could be identified by the size of grouping. Shown are four chromosomes moving to one pole, and the others, many more than four, moving to the opposite pole. Usually the cells containing fewer chromosomes were smaller and did not develop into functional microspores. When stained with acetic-carmine, the non-viable pollen grains did not pick up the stain, but became shrunken.

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